REPORT

OF THE

Indian Tariff Board

REGARDING THE

GRANT OF PROTECTION

TO THE

CEMENT INDUSTRY

CALCUTTA : GOVERNMENT OF INDIA
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CHAPTER I.

Introductory.

Reference to the Tariff Board.

The application for protection put forward by a number of companies manufacturing cement was referred to the Tariff Board in the Resolution of the Government of India in the Commerce Department, No. 38-T, dated the 10th April 1924, which is reproduced below:—

"In pursuance of paragraph 3 of the Resolution of the Government of India, Department of Commerce, No. 3748, dated 10th July 1923 (Tariffs), the Government of India have decided to refer to the Tariff Board for examination applications for protection received from the following industries, *viz.*, cement * * * *

* * * *

2. In making its enquiry, the Tariff Board will be guided by the principles laid down in the Resolution adopted by the Legislative Assembly on February 16th, 1923, and in particular, will consider how its recommendations, if it makes any, will affect industries using these articles. The Tariff Board will conduct its enquiry into these applications in any order it deems most convenient.

3. Firms or persons interested in any of the industries or in industries dependent on the use of these articles, who desire that their views should be considered by the Tariff Board, should address their representations to the Secretary to the Board, Simla."

The Board's procedure.

2. In order that the manufacturers' case might be fully elucidated, a detailed questionnaire was drawn up by the Board, of which copies were sent to all the applicants and also to two other firms who had not been parties to the application. Written replies were received from ten firms in all. Six of these gave oral evidence in support of their application in June and July at Simla, and the representatives of two others were examined subsequently in September at Bombay. The remaining two firms did not give oral evidence. The written replies to the questionnaire and the oral evidence, so far as it had then been taken, were published on 22nd July 1924, and all interested in the subject were invited to address the Board and, if they so desired, to give oral evidence. Eleven communications in all were sent in, either spontaneously or in response to this Communiqué, but very few persons appeared for examination. In Calcutta the only witness forthcoming was unable to appear on the day fixed

for his attendance, and in Bombay only one witness was examined orally. Much valuable information was, however, received as a result of enquiries addressed by the Board to Local Governments, to the Railway Administrations, to the Calcutta and Bombay Port Trusts and to the Engineering firms. Two Members of the Board visited the Central Provinces in August and inspected the works of the Central Provinces Portland Cement Company and the Jubbulpore Cement Company.

Claim to Protection.

3. The claim made on behalf of the Cement industry may be briefly summarised as follows. The industry is of great national importance, as was amply proved during the war, when the existence of three cement factories in India proved of the utmost value. It has a claim to protection, therefore, irrespective of the conditions which the Fiscal Commission regarded as ordinarily applicable. Nevertheless, the industry satisfies these conditions, and has a great future before it. The raw materials are abundant in various parts of the country, the market is already large and is expanding rapidly, and Indian labour can readily be trained to occupy nearly all positions in the cement works. The quality of Indian cement, it is claimed, is equal to that of British cement, but at present a strong prejudice exists in the minds of consumers in favour of the latter. This prejudice will be overcome in process of time, but meanwhile the industry labours under a special difficulty of a temporary kind. A second difficulty arises from the fact that, for the time being, productive capacity has far outstripped the demand. The Indian factories will shortly be able to manufacture nearly twice as much cement as the country has yet consumed in a single year, but imported cement is still about a third of the whole consumption. In order to assist the industry to meet the situation thus created, it is proposed that the Customs duty, which is at present 15 per cent. on a valuation of Rs. 60, *i.e.*, Rs. 9 a ton, should be raised to Rs. 25 per ton. The effect of this increase would be, it is hoped, to exclude foreign cement from the Indian market altogether. In that case the Indian manufacturer would at once be able to increase his output substantially, and the consequent decline in the cost of production, together with the higher price obtained, would give substantial relief.

Arrangement of the Report.

4. We propose in this Chapter to give a brief account of the growth of the Cement industry in India, to describe the present situation laying special stress on what appear to us to be the most important facts and to examine in broad outline the case for protection. The second Chapter will be devoted to a detailed examination of the cost of production and the price which gives the Indian manufacturer a fair return. Our conclusions and recommendations will be explained in the third and last Chapter.

Composition of Portland Cement.

5. Portland cement has been defined as follows:—Portland cement is 'a compound consisting chiefly of silicates and aluminates of lime, produced by the calcination to incipient

vitrification of a mechanical mixture of chalk and clay, or similar materials containing the requisite chemical constituents, the clinker thus produced being subsequently ground to a more or less impalpable powder.'* The process by which it is manufactured is a simple one and does not call for any lengthy description. The only materials necessary are limestone or chalk, clay and gypsum. In Great Britain the chalk used is almost pure carbonate of lime ($CaCo_3$) and the required percentages of silica and alumina are obtained from the clay. Indian limestone contains these substances in varying proportions, and the amount of clay required, therefore, also varies. At Banmor, in the Gwalior State, the limestone so nearly contains all the elements necessary that the percentage of clay in the mixture is less than one per cent., and at Lakheri in Rajputana no clay at all is used, the correct proportion of the elements necessary being obtained by mixing different grades of limestone. These are extreme cases, however, and in most of the Indian works substantial quantities of clay have to be used. The proportion of gypsum necessary is given as about 5 per cent. of the output of cement, but the quantity varies according to the setting time that is desired.

Process of manufacture.

6. The process of manufacture may be divided into three stages. In the first stage the limestone and clay are crushed and ground and then mixed, the object being to secure that the mechanical mixture of the materials should be as intimate and in as fine a condition as possible. In the second stage the mixture of clay and limestone is calcined in a rotatory kiln. The kiln, which is lined with refractory bricks, is a steel tube from 100 to 250 feet in length and 8 to 10 feet in diameter, inclined at a small angle to the horizontal and rotating at the rate of one or two revolutions a minute. The mixture of ground limestone and clay enters the kiln at the higher end and descends slowly under gravitation, while simultaneously pulverised coal is injected with great force at the lower end of the kiln and, igniting at the moment of entry, creates an intense heat. The effect of the calcination is that the carbonate of lime is decomposed and the free lime combines with the silica, alumina and iron oxide. The product of the calcination is known as clinker and passes out at the lower end of the kiln. The third stage of manufacture is the grinding of the clinker to a fine powder and the mixing with it of gypsum. Though the process by which Portland cement is manufactured is simple in essentials, a very complete equipment is required to secure cheap and efficient production. The machinery is both heavy and expensive, and an intricate system of mechanical conveyors is necessary to carry the materials from stage to stage of the process. But, as compared with other important industries in India, the machinery is not very elaborate, and does not require a great amount of skilled supervision. The employment of expensive skilled labourers imported from abroad is therefore necessary only to a small extent.

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* *Portland Cement: its manufacture, testing, and use,* by D. B. Butler

7. The manufacture of Portland cement in India was commenced in Madras as long ago as 1904 by South India Industrials, Limited, a Company that dates from 1879. But the present capacity of the plant is only 10,000 tons and the actual production seems to have been a good deal below that figure. It was not until the war was imminent that the production of Portland cement in India on a large scale was contemplated. Three companies were formed in 1912 and 1913, but none of them had actually commenced to manufacture when the war began. The earliest to start was the Indian Cement Company, Limited, in October 1914 with a factory at Porebander in Kathiawar; then in January 1915 followed the Katni Cement and Industrial Company, Limited, with its works at Katni in the Central Provinces, and finally in 1916 Bundi Portland Cement, Limited, commenced production at Lakheri in the Bundi State, Rajputana. As originally equipped, the three plants together had an output of 76,000 tons. In the latter part of the war, they worked under official control, and the great bulk of their output was taken by Government. Immediately after the war followed the boom years of 1919 and 1920 when the prospects of industrial expansion seemed unlimited, and every week saw fresh flotations. The cement factories were now earning very large profits, and the future of the industry seemed assured. The three older Companies increased their plant to an extent which enabled them to double their output, and no less than seven new cement factories were projected. Two of these were erected near Katni in the Central Provinces, one in Kathiawar, one in the Punjab, one in Chota Nagpur, one in the Gwalior State and one (not yet completed) in the Hyderabad State. By October 1923 all except the last had commenced to manufacture Portland cement, and these six factories between them had an aggregate capacity of 386,000 tons. In few industries has development been equally rapid. In 1914 a small quantity of cement was produced at Madras in one factory, while in 1924 there were ten factories at work with a possible output of 550,000 tons. A list of the Companies will be found in Appendix I.

Manufacture of Portland Cement in India.

8. The claim that the Cement industry in India possesses great natural advantages has, we think, been made good. Limestone of excellent quality exists in abundance in many parts of the country and close to the Railway lines, so that it has usually been found possible to establish the factories in the immediate vicinity of the quarries. The Gwalior Cement Company however has to transport its limestone by rail from a distance of 10 miles, and the Indian Cement Company (Porebandar) for 32 miles, while the Katni Cement and Industrial Company, Limited, supplements the local limestone by supplies of higher quality drawn from quarries 20 miles distant. These are the longest distances over which the limestone has to be conveyed. Suitable clay is invariably to be found close to the works, and all the factories seem to be assured of ample supplies of limestone and clay for a long period of years.

Natural advantages of the Cement Industry. Raw materials.

Gypsum, the only other raw material needed, is also produced in India, but has to be brought from long distances. Even though the quantity required does not exceed 5 per cent. of the output of cement, the freight on gypsum is an appreciable item in costs, and may amount to as much as Re. 1 per ton of cement.

Natural advantages. Labour.

9. As explained in paragraph 6 the process of cement manufacture does not necessitate the employment of highly skilled labourers from abroad, and the Europeans and Americans in the works hold, almost without exception, supervising appointments. The largest number of Europeans employed in any one factory is seven, and the average number is four or five. The appointments which are not at present filled by Indians are those of Manager, Chemist, and Mechanical and Electrical Engineers. Some of the factories are still obliged to employ Europeans as kiln-burners, but this is due entirely to the rapid growth of the industry. The older factories have trained several Indians as kiln-burners, but have been unable to retain all of them when better paid appointments were offered in the newer factories. We believe that, given time and training, Indians can fill adequately both the Chemical and Engineering posts, and will eventually qualify themselves to hold the post of Manager. Meanwhile the disadvantage under which the industry suffers by having to employ a limited number of Europeans and Americans on higher salaries is not a serious one, for the addition to the works costs on this account is probably not more than 8 annas to 12 annas a ton. We have not been able to ascertain with any accuracy the labour costs in a European factory, but, as far as we can judge, the Indian manufacturer has no particular disadvantage in this respect. He employs a much larger number of hands, but this is counter-balanced by the lower rates of wages.

Natural advantages. Power and Fuel.

10. In respect of fuel the Cement industry in India has no natural advantage. With one exception, all the factories are situated at such a distance from the coalfields that the freight on coal is a very serious item in the cost of production. For power production an inferior class of coal can sometimes be used, and several factories draw half their supplies from Rewa or the Central Provinces. But the coal used in the kilns must contain the lowest possible percentage of ash, and for this reason at least half the coal used in the works must be conveyed from the Bengal and Bihar coalfields. The fact that in the Indian Cement industry the cost of coal is necessarily high has a most important bearing on the claim to protection, and the question will be more fully examined in Chapter II. Meanwhile it will suffice to say that, but for the disadvantage and another to be mentioned in the next paragraph, the industry would already be able to meet foreign competition unaided.

Natural advantages. The up-country market.

11. Apart from the two Kathiawar factories there are no Indian cement works within 300 miles of a port. This fact has two consequences. Up-country, owing to the railway freight on imported

cement, the Indian manufacturers have a great natural advantage; indeed it would hardly be too much to say that they possess a naturally protected market. It may be taken to include roughly all stations on the Great Indian Peninsula Railway and the Bengal Nagpur Railway between Bhusawal and Panposh, all stations on the Great Indian Peninsula Railway and the East Indian Railway between Bhusawal and Asansol, all stations on the Bombay, Baroda and Central India Railway north of Baroda, all stations on the North Western Railway north and east of Khanpur, the whole of the Oudh and Rohilkhand and Bengal and North-Western systems, and part of the Jodhpur Railway. Within this region Indian cement has, as compared with the position in the ports, an advantage which varies according to the distance from the nearest port, but may approach Rs. 10 a ton on the average. In the rest of India, Indian cement has to meet the competition of imported cement on the same terms as in the great ports, or on worse terms, as in Burma. From information supplied confidentially by the cement companies and from figures given by four of the Railway Administrations, we estimate that, if the present consumption of cement in India be taken as 390,000 tons, between one-fourth and one-fifth would cover the requirements of the naturally protected area, and, if allowance is made for the area commanded by the Shahabad factory, which will be opened shortly, the proportion may be taken as one-fourth. One factory, Punjab Portland Cement, Limited, which can produce 36,000 tons a year, must necessarily dispose of the whole of its output in the up-country market, as it is more than 900 miles from Karachi, the nearest port. In the replies to our questionnaire sent in by this Company it was admitted that its exceptional geographical position should render it practically immune from foreign competition except indirectly. This indirect competition, it is suggested, is caused by the invasion of the Punjab market by other Indian companies unable to face foreign competition in the ports. If the 36,000 tons produced by Punjab Portland Cement, Limited, are deducted from the demand within the naturally protected area, about 60,000 tons is left for the other companies.

Remoteness of the Indian Cement Factories from the great Ports.

12. The principal market for cement in India is to be found not up-country, but in the great ports, and especially in Calcutta and Bombay, and in this market most of the Indian factories are severely handicapped by their remoteness. More than half the cement consumed in India is probably used in these two Presidency towns and the areas in their vicinity, to which imported cement has as easy access as Indian cement, but there are no cement works within 350 miles of Calcutta and none within 250 miles of Bombay. Japla, where the works of the Sone Valley Portland Cement company are situated, is 370 miles from Calcutta and the Katni group of factories, which are the next nearest, are 670 miles away. The Kathiawar factories are about 260 miles from Bombay and 300 from Karachi, and both are handicapped by their distances from the coalfields. The Bundi Portland Cement works at Lakheri are 610 miles from Bombay, and the Katni group 680.

When, however, the Shahabad factory is opened it will be fairly near its market, for its distance from Bombay is only 370 miles and from Madras 425 miles. On the other hand, it is nearly as far from the coalfields as the Kathiawar factories.

Problem of the Cement Industry in India.

13. The facts brought to notice in the last two paragraphs are fundamental in defining the issue we have to deal with. The two questions we have to answer are, first, whether, notwithstanding the distance of the Indian cement factories from the Presidency towns and also from the coalfields, they can hold their own eventually in Calcutta, Bombay, Madras and Karachi without extraneous assistance, and, secondly, what amount of assistance is required at present to enable them to capture these markets. The up-country market they already hold, and Burma is an exceptional case which requires separate discussion. The analyses of the cost of production in Chapter II will lead up to the answers which we think must be given to these questions. Meanwhile there are other aspects of the case to be considered.

Growth of the Indian market for Portland Cement.

14. During the last quarter of a century the consumption of Portland cement in India has gone up by leaps and bounds. Between 1900 and 1910 the imports* increased from 43,000 tons to 135,000 tons, and in the last two pre-war years, when the Indian production was negligible, cement was being imported at a rate exceeding 180,000 tons a year. For the next six years, owing to shipping and other difficulties, imports fell off heavily, and, but for the newly established Indian factories, there would have been a serious shortage of supplies. As it was, in three out of the five war years the Indian production and imports together exceeded 160,000 tons, and it was only in 1916 and 1918 that the consumption was substantially below the pre-war level. In the first year after the war a rapid increase in the consumption began, and, notwithstanding the high prices which still prevailed, the consumption increased to 180,000 tons—or approximately what it was in 1912 and 1913. During the next five years the consumption more than doubled, and by 1924, the Indian production and imports together amounted to about 388,000 tons. The Indian production at 264,000 tons was 47 per cent. greater than the annual imports in 1912 and in 1913. The imports of cement into India, and the production since 1914, have been tabulated in Appendix II.

Probable future growth of consumption.

15. Rapid though the increase of consumption has been, it has not been great enough to absorb the output of six new factories all commencing to manufacture within the brief period of two years. The total Indian demand is not quite 390,000 tons at present, while the Indian cement works can already produce 550,000 tons and, as soon as the Shahabad factory opens, will have a potential output of 600,000 tons. Nevertheless, if consumption

* Except when otherwise stated, the import figures given in the Report include Government stores.

continued to grow at the same rate as it did between 1919 and 1924 it would not be long before the demand again overtook the productive capacity of the works. In that case by 1928 or 1929 India would be using 600,000 tons of cement a year, and the position of the industry would be very greatly improved. The manufacturers apparently expect that the post-war rate of increase will in fact be maintained, and point in support of their views to the experience of other countries, and particularly of the United States of America. We are not greatly impressed by the American analogy, for conditions in India are not comparable to those prevailing in the United States, and the course of events in this country may be widely different. We thought it desirable, however, to examine the question as fully as possible, and with that object we addressed enquiries to Local Governments, the Railway Administrations, the Port Trusts of Calcutta and Bombay and several engineering firms. The three points on which we invited opinions were:—

(1) whether, if cement prices remained at about their present level, a substantial increase in consumption was probable;

(2) what percentage of increase in the present price was likely to (*a*) retard, (*b*) stop or (*c*) reverse the increase in consumption, and

(3) at what price cement would begin to replace lime for constructional purposes.

It will be convenient, we think, to indicate the general tenour of the replies received.

Opinions as to the growth of consumption.

16. To the first question the majority of the replies were either a direct negative or a statement to the effect that only a slow and gradual increase could be expected. There were, however, a few exceptions. The South Indian Railway Administration, which uses chiefly imported cement, thinks that the increase will be substantial, but not rapid. Messrs. Martin and Company, Calcutta, point out that low cement prices encourage the use of reinforced concrete, and that conditions in the Presidency towns necessitate the erection of loftier buildings, for which this method of construction is suitable. A similar view seems to be taken by the Port Trusts of Calcutta and Bombay. The former body point out that, had Indian cement been obtainable at the present low rate when the construction of King George's Dock was started, the execution of the whole of the work in cement would have been seriously considered. That would have meant the purchase of an additional 70,000 tons of cement.

Opinions as to the effect of increased prices on consumption.

17. The second question was a somewhat difficult one to answer, and a considerable variety in the replies was to be expected. Three Local Governments never use cement except when it is indispensable, and consequently believe that, within wide limits, price fluctuations would make no difference. The general opinion seems to be that any increase in price would retard consumption;

the increase which would stop the growth of consumption is variously estimated at from 5 to 30 per cent., and the percentage which would produce an actual decrease from 10 to 50. The one point which seems to emerge clearly is that the price factor is very important, and directly affects consumption.

Opinions as to the substitution of Cement for Lime.

18. Our enquiry as to the reduction in price which would enable cement to compete with lime has naturally elicited the most various replies, for the conditions in the Provinces are very far from uniform. But the great majority of those consulted consider that a substantial reduction in the price would be necessary, and three Local Governments think that cement could not in any circumstances compete. The main exceptions are again the Port Trusts of Calcutta and Bombay. The latter body say definitely that at present prices cement mortar in Bombay can be used to replace lime mortar in good class brick work or masonry. The Calcutta Port Commissioners say that they are now using Indian cement at Rs. 36-12-0 a ton, and at this price the cost of cement brickwork is brought very near the cost of lime brickwork, the figures being Rs. 48 per 100 cubic feet for the former and Rs. 45 per hundred cubic feet for the latter. Apart from the Port Trusts, the only evidence favourable to the cement companies' claim comes from the Punjab Government who state that, if cement could be obtained at a price of about Rs. 30 f.o.r. at the Punjab Cement Company's works, it would begin seriously to compete with lime. Lower prices than this have actually been accepted by cement companies, f.o.r. works, during the past year.

Possible slackening of demand in the Presidency Towns.

19. It will be seen from what is said in the last three paragraphs that the evidence obtained does not favour the view that consumption will soon equal the productive capacity of the Indian works. It must not be forgotten that many projects which had been held up during the war were vigorously pushed on when the channels of trade re-opened. In Calcutta the King George's Docks, and in Bombay the great schemes of the Development Department, provided outlets for large quantities of cement, while in both cities rebuilding has been carried out on an extensive scale. It is not safe to assume that there will be no slackening of activity in this direction, and it is possible that for the moment the Presidency towns have reached the limit of their capacity to absorb cement. One witness indeed, Mr. R. P. Mears of Messrs. J. C. Gammon and Company, Limited, a Bombay firm of contractors, who use a great deal of cement, informed us that in Bombay a lessening of activity had already come about. He attributed the post-war growth of consumption to the increase in the amount of construction done, and to the far larger use of reinforced concrete, but he did not anticipate that this growth would continue. There had been an extraordinary boom in construction in Bombay, but it was now at an end, and much less building was going on than there was three years ago. On the whole, he thought that during the next five years in Bombay a decrease rather than an increase in consumption was to

be expected. This evidence is of some importance, for probably more cement is used in Bombay than in any other place in India.

Views of the Board as to the probable growth of consumption.

20. In the face of the evidence we have received we are not justified in anticipating that the consumption of cement in India will in the next five years increase as rapidly as it has hitherto done. But it would be unduly pessimistic to assume that there will be no increase at all. There are reasons which lead us to think that India's present consumption of cement is still far below its potential consumption, and that the demand will continue to expand. Experience in other countries suggests that in the great towns cement may become an important road making material, and there is at least a possibility that, in particular localities and for particular purposes, cement may be able to displace lime in constructional work. In the up-country districts also there is room for expansion, and in many parts of India contractors and workmen are still unaccustomed to the use of cement, and their work is often spoilt by ignorance and inexperience. This fact constitutes an objection to the use of cement at present and leads builders to prefer other materials. But the obstacle is only temporary. There is nothing intrinsically difficult in the use of cement, and Indian workmen are learning to use it every day. It is facts of this kind which justify a belief that the demand will grow. But it would be a mistake to assume that the rate of growth will not be affected by the price at which cement can be bought. For certain purposes, it is true, cement is indispensable, and will continue to be used at almost any price. But for many other purposes cement enjoys no monopoly, and is in constant competition with other methods of construction and other materials, which already hold the field and must be displaced. A rapid extension of its use can hardly be expected unless the price continues relatively low. This is particularly true of up-country markets like the Punjab where, on account of the distance from the sea, imported cement has always been expensive, and consequently little used. A marked rise in the price would probably retard the growth of consumption, and a very substantial increase might for the time being stop it altogether. In view of the excess of productive capacity over demand a rapid expansion of consumption is what the industry chiefly needs, and it is for this reason that we have laid stress on this aspect of the subject.. We now turn to the question of prices.

Prices of imported cement.

21. According to the evidence of the manufacturers, in 1912 and 1913 imported cement was selling in Bombay at from Rs. 45 to Rs. 50 a ton, and these ported cement was formidable only in the values in the Trade Returns. In 1917 and 1918 the price had risen enormously, and apparently varied from Rs. 125 to Rs. 225 a ton. Even in 1921-22 the price of imported cement, it is said, was as high as Rs. 200 a ton and was not lower than Rs. 150. In 1922-23 there was a rapid decline in the price of imported cement to Rs. 75, and in 1923-24 to Rs. 60 or even lower. The present price of British cement in the ports is between Rs. 55 and Rs. 60.

The cement imported from other countries is no more than a fifth of the total, and the bulk of it comes from Germany and Belgium. Detailed information as to the prices of Continental cement is lacking, but apparently it is lower than the price of British cement by about Rs. 10 a ton. This is in accordance both with the statements of the manufacturers and with data supplied by the Indian Stores Department.

Prices of Indian cement.

22. During the war the Indian factories were under official control and the great bulk of their output was taken by the Munitions Board, at first at Rs. 42-8-0 and subsequently at Rs. 55 a ton *ex* works, so for that period no useful comparison can be made with the prices of imported cement. Control ended in the middle of 1919, and the factories were then in a position to take advantage of the very high prices which prevailed. During the next three years the prices realized by the three Companies then producing were very remunerative, though far below the prices of British cement. In 1922 a decline in prices began, but even in that year two Companies state that they were realizing Rs. 70 a ton and upwards. In 1923 the production of the new factories began to affect the market, a period of intense internal competition began, and prices fell away to a ruinous level. This can but be illustrated by the prices communicated to us by the Calcutta Port Commissioners. They are as follows:—

	Per ton (delivered Calcutta). Rs.	A.	P.
June 1923	52	0	0
February 1924	43	13	0
May 1924	36	12	0

These were all tenders for large quantities, none of them less than 5,000 tons. In June 1924 the Indian Stores Department received tenders for 312 tons of cement, and the lowest tender sent in was Rs. 28-8-0 f.o.r. works, equivalent to Rs. 40 at Calcutta. More recently, in January 1925, tenders were received from Indian companies at Rs. 25 per ton, f.o.r. works, on two occasions for 2,500 and for 6,200 tons.

Present prices of Indian cement unremunerative and due to internal competition.

23. The full significance of the present prices of Indian cement will be brought out when the cost of production has been examined, but there are two facts which must be emphasised here. The first is that the present prices are wholly unremunerative and usually do not even cover the works costs. In these circumstances prices cannot remain at their present level, and a rise in the near future is inevitable. This is a fact which makes it unwise to take an over-sanguine view of the probable growth of consumption in the near future. The second fact is that the present price of Indian cement is due solely to internal competition amongst the Indian cement works, and is in no direct relation to the price of imported cement. If the importation of foreign cement were prohibited by law, it is doubtful whether the

internal price would be affected. This fact has an obvious bearing on the claim for protection.

Countries from which cement is imported.

24. The great bulk of the Portland cement imported into India is made in Great Britain. During the five years immediately preceding the war the quantity* received from the United Kingdom was nearly five-sixths of the total, and the lowest percentage was 77 in 1912-13. The results for the post-war period are very similar, and during the five years 1919-20 to 1923-24 Great Britain was responsible for four-fifths of the imports. In the first of these years the British proportion was over 80 and in the second over 90 per cent. but in 1921-22 British imports fell off heavily and amounted to only 64 per cent. of the total. A recovery followed to 72 per cent. in 1922-23, and 84 per cent. in 1923-24. A certain quantity of cement also enters India annually from Germany and Belgium, the imports from the former country usually preponderating; but in spite of the fact that the Continental cement usually sells at a price substantially below that of British cement, the hold which the latter possesses on the Indian market has not been shaken. The imports from Germany and Belgium were heaviest in 1912-13, when these two countries between them sent to India nearly 29,000 tons, but the highest figure attained since the war was 18,000 tons in 1922-23. Japan has been an important source of supply only in 1921-22, when nearly 19,000 tons were imported; but two years later the imports from that country dropped to 87 tons.

Strong position of British cement.

25. Continental cement has never found the same favour with consumers and does not displace British cement even at a 15 per cent. difference in prices. It follows, of course, that it is the British competition which is formidable to the Indian producer, and the claim to protection must be considered in the light of that fact. If a cement factory can hold its own against British cement, it has nothing to fear at present from other countries. It was explained in paragraph 23 that the present low price of Indian cement is due to internal and not to foreign competition, but it does not follow that, if there were fewer Indian factories, Indian cement would realize the same price as British cement. The evidence we have taken makes it quite clear that many consumers will not buy Indian cement unless it is a great deal cheaper than British. But there is nothing in the evidence to suggest that the consumer's preference extends to cement coming from Germany and Belgium and other Continental countries. The difficulty, therefore, which the industry has to meet is not so much a prejudice against Indian cement as a distinct preference for British cement over cement from any other source.

Tests of Indian cement.

26. If Indian cement is to be successful in competition with British cement, the maintenance of a high standard of quality is essential, and we have made special enquiries on this point. We

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* In calculating the percentages in this paragraph, Government stores have been excluded.

examined Mr. Brodie of the Government Test House, Alipore, who has made a large number of tests of Indian cement in his laboratory, either at the request of the manufacturers themselves, or of merchants, or on behalf of Government Departments. He expressed the opinion that the quality of the cement manufactured in India was very good and that it did not as a rule fall below the British standard specification. So far as he could judge, it was as good as, or rather better than, imported cement, taking into consideration the fact that it was to be used under Indian conditions, and considerably superior to Continental or other foreign cement. So far as quality was concerned, he thought the Indian manufacturer could quite hold his own. We think that Mr. Brodie's evidence is important and that it cannot be brushed aside as merely based on laboratory tests. As Mr. Davy, Controller of Inspection in the Indian Stores Department, pointed out, the British standard specification was devised to protect the consumer and not to help the manufacturer, and cement which passes the tests successfully will give satisfactory results in actual use.

Opinions as to the quality of Indian cement.

27. The quality of Indian cement has been tested not only in the laboratory but also in actual use. We have obtained opinions on the subject from Local Governments, Railway administrations, and other important consumers, and on the whole they are distinctly favourable. The majority of the replies received are definitely to the effect that Indian cement has been found to be as good as British cement. On the other hand, some authorities say that the quality is not uniform, and that occasionally supplies have been found unsatisfactory. This may very well be the case. Every one of the large Indian factories commenced production within the last eleven years,—six of them within the last three years—and it would be surprising if every one of them had an absolutely clean record from the start.

Board's views as to the quality of Indian cement.

28. We think the evidence justifies the conclusion that there is no reason why cement should not be made in India equal in every respect to British cement, and that the product of the Indian factories usually is so. Where the quality has been inferior, it has been due to the inexperience against which every industry has to struggle during its early years, but we do not believe that failure has been frequent. The preference for British cement can be accounted for without assuming any real inferiority of Indian cement. British cement has now held a high reputation for quality over a long period of years, and would naturally be given some preference on that account. The use of bad cement might imperil the stability of an important work and those responsible for its execution are reluctant to run an unnecessary risk. They are ready, therefore, to pay something extra for what they regard as a guarantee of quality. There is also the feeling, whether justifiable or not, that British cement has already proved its lasting qualities, and that a number of years must elapse before this final test can be applied to Indian cement. The Indian manufacturers are new-

comers in the industry and have still to make their reputation, and during the period of trial every inferior consignment sent out by a single factory puts off the day when Indian cement will be as freely accepted as British. But we believe it is only a question of time before Indian cement establishes its reputation, and it is significant, we think, that two of the older factories (Katni and Bundi) have much less difficulty in selling their output than the newer factories. They can do so because their reputation is already established. The preference for British cement will not disappear suddenly, and the process by which the consumer is convinced that Indian cement is perfectly satisfactory will be gradual. For several years to come it must be taken as one of the facts of the situation that Indian cement will be taken instead of British only if the price is very distinctly lower.

Packing of Indian cement.

29. There is another reason why in certain Indian markets imported cement is preferred, namely, the method of packing. Imported cement is packed in wooden casks lined with waterproofed paper, whereas Indian cement is packed in gunny bags. It is claimed that on this account Indian cement is less protected against the action of moisture, and is much more liable to deterioration in transit or when stored. This view has been freely expressed in the evidence we have taken, but we believe an undue importance has been attached to it. On this point the opinion of Sir Hugh Keeling, Chief Engineer, Delhi, is valuable as he has had long experience of the use of cement in India. He writes:—

> "For sometime past we have been using Indian cement only for public works in Delhi. I may say that since these works were started we have only used imported cement where there has been any doubt as to the possibility of our obtaining the required quantity of Indian cement. We call for tenders for the supply of cement and we specify that it should be up to British Standard Specification for quick, medium or slow setting as the case may be. Consignments are tested as they arrive and any consignment not up to the specification is at once rejected. Our experience of Indian cement on this project has been that the standard of quality is equal to that of cement imported from Europe. In this connection I may say that during the 37 years I have been engaged on works in India, I have often found that cement imported from Europe deteriorates on the voyages and I have, on several occasions, had reason to complain to the Director General of Stores in England regarding the unsatisfactory quality of the cement despatched. Enquiry has proved, however, that when the cement was despatched it was up to the British Standard Specification. The deterioration takes place during the time the cement is on the ship, before it reaches the Indian port of delivery. We have not found that Indian cement is liable to deterioration if it is packed in bags and not in barrels, if care is taken to see that the bags are suitable and properly

tarpaulined or put in a closed waggon. I cannot see why on this ground preference should be given to imported cement, even if prices were higher.

As I have mentioned before, I have known of several cases where consignments of cement from Europe which were packed in barrels and which have deteriorated on the voyage. Indian cement, properly packed and tarpaulined or loaded in a closed waggon, is, in my opinion, not as likely to deteriorate on a comparatively speaking short railway journey as English cement is on its voyage from Europe to India."

It may be admitted that in a Province with a very moist climate such as Lower Burma, and in most parts of India during the rains, cement packed in bags will deteriorate more rapidly than cement packed in casks, and to that extent Indian cement is at some disadvantage if prolonged storage is necessary. But it is to be remembered that supplies can be obtained with much greater frequency from an Indian factory than from abroad, and it is now unnecessary to hold stocks of cement for long periods. Both in Europe and America cement is sold for domestic consumption in bags, and the use of casks is confined to exported cement, because greater protection is necessary during the long sea voyage, and because the cement is likely to remain in stock for a considerable time after arrival in a foreign country. We believe that the objection to Indian cement on this ground will gradually disappear as the position becomes better understood.

Cost of packing Indian cement in barrels.

30. We have made enquiries as to the cost of packing Indian cement in barrels, and the information obtained makes it clear that this alternative is not feasible, as the cost in this country is prohibitive. On this point the Central Provinces Portland Cement Company have supplied us with the following information :—

"Messrs. Spedding and Company have offered to supply us with staves and heads for making barrels. These staves and heads would have to be made into barrels at our factory, for which purpose a certain amount of additional machinery would have to be installed. Messrs. Spedding and Company have quoted for staves and heads for one barrel Rs. 2-6 *ex* their mills. The railway freight from their mills to our factory on staves and heads for one barrel would be Re. 0-8-3 per barrel. After we receive the staves and heads at the factory, it would cost us about 4 annas a barrel to make the staves and heads into barrels. The total cost of barrels would therefore be Rs. 3-2-3, and we would require six barrels to pack one ton of cement."

It will be seen that packing in barrels would cost nearly Rs. 19 per ton of cement, an entirely impossible figure.

Similar information has been received from two or three other Companies.

31. The important points to which we have drawn attention in this Chapter may be summarised as follows:—

Summary.

(1) The Cement industry in India possesses natural advantages in an abundant and easily accessible supply of all the raw materials required, and is at no disadvantage so far as labour is concerned. On the other hand, nearly all the cement works are remote from the coal fields, and the freight on coal is a heavy item in the cost of production.

(2) The consumption of cement in India has grown with great rapidity during the last quarter of a century, and a further increase may be expected. But the productive capacity of the Indian works has far outstripped the demand, and this is the principal reason for the difficulties under which the industry is suffering. A rapid growth in consumption is its chief need, but this is not likely to occur unless the price remains relatively low.

(3) The present price of cement in India (excluding Burma and Madras) is unremunerative and barely covers, or does not cover, the works costs. It is due entirely to internal competition between the Indian companies and not to foreign competition.

(4) Indian cement already holds the up-country market over a large part of India, but this market is relatively small and does not account for more than a quarter of the demand.

(5) The principal market for cement in India at present is in the great ports and especially in Calcutta and Bombay. With five exceptions,* no Indian factory is within 600 miles of a port, and four out of the five are 1,000 miles and upwards from the coalfields.

(6) Four-fifths of the cement imported into India is British, and the only formidable foreign competition is from the United Kingdom. Owing to the excellent quality and the established reputation of British cement and the newness of the industry in India, many consumers will not purchase Indian cement unless the price is markedly lower. This feature of the situation is likely to continue for several years.

(7) Cement can be produced in India equal in quality to British cement in every respect, and the product of the Indian factories is usually up to this standard. Occasional failures must be ascribed to the inexperience inevitable in a new industry.

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* The five exceptions are the Sone Valley Portland Cement works, the two Kathiawar factories, the new factory, not yet opened, at Shahabad, and the small works of South India Industrials, Limited, at Madras.

(8) The main questions to be considered are—

(*a*) Whether eventually Indian cement will be able to hold its own without extraneous assistance in the great ports, notwithstanding the remoteness of the Indian cement works both from the coal fields and from the ports, and

(*b*) What assistance will enable Indian cement to capture the market in the Ports, taking into account the higher price which many consumers will pay for British cement.

CHAPTER II.

The cost of Production and the Fair Selling Price.

Cost figures supplied by by the Companies.

32. Of the ten Companies now manufacturing cement in India nine have furnished us with statements showing their cost of production in recent years. The figures supplied by three of these companies are not, however, of great importance. The cost statements of the Dwarka Cement Company, Limited, were not submitted in the form we desired, and cannot readily be compared with those of the other companies. The cost of production in the works of South India Industrials, Limited, is so high owing to the very heavy cost of its raw materials and its low output, that it would apparently stand no chance in competition with the other Indian factories. Its comparative remoteness has hitherto shielded it from Indian competition, but the opening of the new works at Shahabad will make a great change in that respect. We have made some use of the figures of the Punjab Portland Cement Company, Limited, but as its output is not sold in direct competition with imported cement, its costs are not important in examining the claim to protection. The cost figures which require close examination are those of the remaining six Companies, three in the Central Provinces (which can conveniently be referred to as the Katni Group), one in Rajputana, one in Kathiawar and one in the Gwalior State. One firm, the Sone Valley Portland Cement Company, Limited, declined to communicate its cost figures to the Board on the ground that for various reasons, such as accidents to the plant and a low output, the costs during the first year of working did not give a fair idea of what could be done under normal conditions. This firm was not one of the original applicants for protection, but a copy of the questionnaire was sent to the Agents at their own request. The replies sent in made it clear that the Company associated itself with the demand for protection, and in these circumstances it appeared to us unreasonable that information, which was indispensable if the claim was to be properly investigated, should be withheld. We invited the Company to reconsider their attitude but they could not see their way to do so. This refusal was the more to be regretted because this Company's works are much nearer to the coalfields and to Calcutta than those of any other firm in India, and it should be able to land cement in Calcutta at a lower cost than the rest. The matter is of importance on public grounds. We hold that any company which refuses to disclose its costs when the claim of an industry to protection is under investigation, forfeits all claim to public assistance, for it is imposible to ascertain whether such assistance is required or not.

Method by which the reasonable cost of production has been ascertained.

33. It would clearly be impossible to determine separately for each Company what would be a reasonable cost of production or a fair selling price. It is possible to ascertain separately certain

important elements in the price, *e.g.*, the freight on coal and the freight on cement from the factory to the ports. But to attempt to ascertain precisely to what extent in each case the works costs could be reduced, and whether high costs in particular directions were due to obsolete equipment, inefficient management or unavoidable causes, would involve detailed local investigation and expert assistance. An enquiry of that kind we could not undertake. In discussing, therefore, the works costs other than power and fuel, we have assumed the existence of equal efficiency at the works, and that all will be able to bring down these costs to approximately the same level. This assumption does not, we think, involve any material inaccuracy, for the evidence does not disclose such differences in the local circumstances as would entail wide variations in the cost of production. In examining the overhead charges and the return on the capital investment, we have endeavoured to ascertain what would be a reasonable capitalization for a factory with an output large enough to ensure cheap production, and not larger than the conditions of the Indian market render suitable. Finally, we lay stress on the fact that a full output is presupposed throughout our examination of the cost of production. The reasons for this assumption can best be explained in a later paragraph (see paragraph 62).

Works costs other than Power and Fuel.

34. The works costs of the cement factories (see Appendix III) vary considerably, but they have all one point in common, *viz.*, the fact that the cost of power and fuel is at least 40 per cent. of the total and sometimes a great deal more. This item requires separate discussion, and, if it is excluded, the other works costs in 1923 were as follows:—

	Rs. Ton.	Approximate percentage of capacity represented by the output of 1923.
The Indian Cement Company . .	21·46	49
The Katni Cement and Industrial Company	14·00	89
Bundi Portland Cement, Limited .	13·91	88
Jubbulpore Portland Cement Company	12·13	35
Gwalior Cement Company . .	19·00	37
Punjab Portland Cement, Limited .	14-17	—
The Central Provinces Portland Cement Company	12·82	39

There are several noticeable features in the above table. The output of two of the factories (Katni and Bundi) was not far short of their full capacity, and their costs are almost identical, but it is noteworthy that they are not the lowest. In spite of the fact that their output was little more than a third of capacity, two

of the newer companies, both in the Katni group, had lower costs and a third (Punjab) was only slightly higher. This may be explicable to some extent by the fact that in the first year of operation the expenditure on repairs and maintenance was likely to be below normal, but the explanation does not cover the whole of the ground. Economical production is most probable in the factories with the most up-to-date equipment, and in this respect the newer factories may have some advantage. The costs in the other two factories (one new and one old) are admittedly too high, and are ascribed to the low output.

Works costs—Materials.

35. In Appendix III the costs have been arranged under four sub-heads and something must be said about each. But a detailed comparison item by item is hardly possible, as there is some lack of uniformity in the classification of expenditure. The average cost of materials per ton of cement is a little over Rs. 3. The Punjab Company returns the lowest figure (Rs. 1·7), and the next lowest is Bundi (Rs. 2·6). The two highest are Katni (Rs. 5), and the Central Provinces (Rs. 4·4). The former Company has to rail part of its limestone from a distance of 11 miles. The latter Company has already succeeded in reducing the cost of materials substantially by the use of power shovels in the limestone quarries.

Works costs—Labour.

36. The average cost of the factory labour per ton of cement is Rs. 2·5, but the cost under this sub-head per ton of cement varies from Re. 1 at Katni to Rs. 4 at Porebandar. The differences in the figures under this sub-head are certainly due in part to the lack of uniformity in classification. No difference in circumstances has been brought to our notice which would account for the fact that, when both factories were working to nearly 90 per cent. of capacity, the labour costs per ton should be nearly three times as high at Lakheri as they were at Katni. The very high cost in the Porebandar factory is attributable to a low output, but in spite of this handicap two of the newer factories (Gwalior and Jubbulpore) brought their labour cost below Rs. 2 a ton.

Works costs—Repairs and Maintenance.

37. The average cost of repairs and maintenance per ton of cement was Rs. 3·5. In two cases (Porebandar and Gwalior) the cost was high (Rs. 6·7 and Rs. 5·2) on account of the low output. In the Jubbulpore works the low figure (Rs. 1·6) is accounted for by the fact that the machinery was new, and the same explanation applies to the Central Provinces Company, who returned no expenditure at all under this sub-head for the first five months of working. On the whole, the Bundi figure of Rs. 3·6 may be taken as a normal one.

Works costs—General and Miscellaneous.

38. The remaining works costs, other than power and fuel, have been grouped together. They include all the general and miscellaneous charges, such as supervision, local office expenses, miscellaneous stores, etc. The incidence of such charges per ton

of cement inevitably increases when the output falls, and it was to be expected that the lowest costs would be returned by the two factories with a normal output. The Bundi figure of Rs. 4·7 seems to us to be on the high side, however, and the Katni figure of Rs. 3·5 is more nearly normal.

Probable reduction of Works costs other than Power and Fuel, given a full output.

39. Three of the factories furnished us with detailed estimates (see Appendix III) of the extent to which they believed costs could be reduced under normal conditions if a full output were secured, and two others have indicated in general terms the extent of the reduction anticipated. The Indian Cement Company, Limited, believe that their costs at Porebandar would come down from Rs. 21·5 to Rs. 11·7, given a full output, and this factory is by no means one of the best equipped. Both the Bundi and Katni Companies expect to come down from Rs. 14 to Rs. 12 a ton. The Gwalior Company anticipate that they will eventually bring these costs down to just above Rs. 9 a ton, but this estimate may be a little over-sanguine for the near future. It appears, however, that during the month of April 1924, working to capacity, this concern did in fact succeed in bringing its works costs, other than power and fuel, below Rs. 12 a ton. The Central Provinces Company expect a reduction of Rs. 4 or Rs. 5 a ton, but the net reduction would not be more than Re. 1 or Rs. 2, when allowance is made for the cost of repairs and maintenance. On the whole, we think that, with efficient management and a full output, any of the factories ought to be able to bring the works costs, other than power and fuel, down to a figure between Rs. 10 and Rs. 12 a ton. The distribution over the sub-heads might be very approximately as follows:—

	Rs.
Materials	2·5 to 3
Labour	1·5 to 2
Repairs and Maintenance . . .	3·0 to 3·5
General and Miscellaneous . . .	3·0 to 3·5

Works costs—Power and Fuel.

40. The cost of power and fuel per ton of cement in 1923 has been given for each factory in Appendix III, but for practical purposes these figures are not of much use, for most of the coal used in that year was purchased earlier and at much higher prices than those now prevailing. In order to ascertain the present cost of coal per ton of cement it is therefore necessary to refer to the answers to the questionnaire and to the oral evidence. Theoretically, about half a ton of coal is required per ton of cement, but since the war the Companies have found difficulty in working down to this figure. In some cases this may be due to a low output, because continuous working is essential to fuel economy, and if there are stoppages, the quantity of coal used is higher per ton of cement. But the higher coal consumption is also due in part to a higher percentage of ash. The evidence makes it quite clear that since

the war there has been a marked deterioration in the quality of Bengal coal, followed by a gradual improvement which still continues. One or two of the Companies use only Bengal coal, others use Bengal coal in the kilns and inferior coal for the boilers, and others again use a mixture of Bengal and inferior coal, half and half. On the basis of the statements made by the various companies as to their coal consumption, the sources of supply and the pit's mouth price of coal, the following figures have been extracted from the evidence:—

——	Cost of coal at the colliery per ton of cement.	Freight from colliery to works per ton of cement.	Total cost of coal per ton of cement.
	Rs.	Rs.	Rs.
Indian Cement Company	4·9	10·1	15·00
Katni Cement and Industrial Company .	5·5	3·6	9·1
Bundi Portland Cement, Limited . .	5·4	7·2	12·6
Gwalior Cement Company . . .	3·9	4·5	8·4
Central Provinces Portland Cement Company.	4·6	2·9	7·5

It will be seen that the freight on coal is not a very serious item in the case of the Katni group of factories or of Gwalior. It is heavier in the case of Bundi and much heavier in the case of the Kathiawar group. The average cost of coal at the pit's mouth per ton of cement according to the above table is about Rs. 5. But the price of coal has fallen since the evidence was taken, and with a full output the coal consumption would be lower. On the whole, we think that Rs. 4·5 would be a fair average figure. On that basis the cost of coal per ton of cement works out as follows, in round figures:—

——	Cost of coal at the pit's mouth.	Freight.	TOTAL.
	Rs.	Rs.	Rs.
Katni group of Companies . . .	4·5	3·5	8
Gwalior Cement Company	4·5	5	9
Bundi Portland Cement, Limited . .	4·5	7·5	12
Kathiawar group of Companies . .	4·5	10·5	15

Cost of packing.

41. In order to arrive at the cost of cement, f.o.r. works, exclusive of overhead, one more item has to be taken into account, namely, the cost of packing. The cost of packing in 1923 varied from Rs. 9 to Rs. 7, and the average was Rs. 8·5. All the factories pack their cement in gunny bags, and at present no alternative method of packing is available. We have already explained in paragraph 30 that the cost of packing in barrels at Rs. 19 a ton is prohibitive. In the United States of America paper bags are commonly used, it is said, for packing cement, and they have been tried in India but were not found satisfactory. They are much cheaper than gunny bags, but they are apt to be damaged in transit and the cement lost or spoiled. The cost of packing is a heavy item, but at present there is no prospect of its being reduced below Rs. 8 per ton of cement.

Total cost f. o. r. works, without overhead.

42. The total cost per ton of cement, f.o.r. works, without overhead, has been estimated as follows in the foregoing paragraphs:—

—	Works costs (other than power and fuel).	Power and fuel.	Packing.	TOTAL.
	Rs.	Rs.	Rs.	Rs.
Katni group of Companies .	10—12	8	8	26—28
Gwalior Cement Company .	10—12	9	8	27—29
Bundi Portland Cement, Limited.	10—12	12	8	30—32
Kathiawar group of Companies	10—12	15	8	33—35

Overhead charges—Head office and Agency charges.

43. The Head office expenses vary considerably as between the different Companies, and for no very apparent reason. The Katni and Bundi factories, for example, have approximately the same capacity and had in 1923 the same output, yet the Head office expenses of the former were nearly double those of the latter. The Central Provinces and Jubbulpore factories were both working to about the same percentage of capacity, but the incidence of the Head office expenses of the latter per ton of cement was three times as great as those of the former. Calculated on the full output, the average incidence of the Head office expenses of six factories per ton of cement was Re. 1, and we think this is a reasonable figure, more especially as the Bundi figure in 1923 was somewhat lower. A somewhat smaller allowance should cover the reasonable remuneration of the Agents for the work done on behalf of the factories. Under their contracts with the cement companies, the agency firms are usually entitled to a 10 per cent. commission on net profits, and in one or two cases to a lump sum as well, or to

a small commission on sales. It will be seen from paragraph 50 that 13 annas a ton is somewhat more than 10 per cent. of what we take to be a reasonable profit. Under this sub-head Rs. 1-12 seems to be a fair allowance.

Interest on Working Capital.

44. Five of the Companies have given us estimates of the working capital they would require if they were operating at full capacity. These estimates may be summarised as follows:—

—	Working capital required per ton of output.	Interest on Working Capital at $7\frac{1}{2}$ per cent.
	Rs.	Rs.
Indian Cement Company, ...	27	2·0
Bundi Portland Cement, Limited . . .	15	1·1
Gwalior Cement Company, ...	22	1·6
Punjab Portland Cement, Limited . . .	20	1·5
Central Provinces Portland Cement Company .	12	0·9

We have taken into account the evidence given as to the stocks usually held, the value of stores and spares, and the period which usually elapses between supply and payment, and we think that some of these estimates are too high. The out-of-pocket expenditure per ton of cement may be taken at an average figure of Rs. 30, and 6 months output seems a reasonable measure of the working capital required. In that case the working capital is Rs. 15 per ton of output as estimated by Bundi Portland Cement, Limited. We do not think more than Rs. 1-4-0 per ton need be allowed on account of interest.

Capitalisation of the cement factories.

45. Before the proper allowance for depreciation can be ascertained, it is necessary to determine what is a reasonable estimate of the cost of erecting a cement factory at present-day prices. The actual capitalisation of the Companies per ton of output when working to capacity is as follows:—

	Fixed capital expenditure per ton of output.
	Rs.
Indian Cement Company	70
Katni Cement and Industrial Company .	79
Bundi Portland Cement, Limited . .	74
Dwarka Cement Company	78
Sone Valley Portland Cement Company .	154
Jubbulpore Portland Cement Company .	94
Gwalior Cement Company	102
Punjab Portland Cement, Limited . .	170
Central Provinces Portland Cement Company	130

In three cases the capitalisation is extravagantly high, and the figures cannot for a moment be accepted as reasonable. The three older Companies had the advantage of purchasing their machinery and erecting their buildings when prices were much lower, but all of them have made substantial additions and replacements since the war, during a period of high prices. It is not by any means clear that their actual capitalisation is much below the level of present-day costs, and in fact one factory has been erected since the war at a cost in fixed capital expenditure which is no higher than that of the older Companies. In our questionnaire we invited the manufacturers to state what the present-day cost of a factory would be, and three estimates were received which work out as follows:—

	Estimated fixed capital expenditure per ton of output at present-day prices.
	Rs.
Bundi Portland Cement, Limited . . .	100
Indian and Gwalior Cement Companies . .	90
Central Provinces Portland Cement Company .	104

Of these three estimates the second is the most valuable, for it is based on the cost of the machinery recently ordered for the new Shahabad factory.

Fair capitalisation as estimated by the Board.

46. In determining the fair capitalisation of a factory manufacturing cement in India, there are three post-war factories whose figures are important. They are as follows:—

	Full output.	Capitalisation per ton.
	Tons.	Rs.
Gwalior Cement Company .	40,000	102
Jubbulpore Portland Cement Company	60,000	94
Dwarka Cement Company .	100,000	78

It will be noticed that the capitalisation varis according to the capacity of the plant, and it might naturally be expected that this would be so. A close examination of the figures will show that in this case the variation is exact. If the capitalisation of any of the three is taken as a starting point, and increased or diminished by Rs. 4 a ton for every 10,000 tons of output, the capitalisation of the other two is arrived at exactly. It may be, of course, that this curious result is a mere coincidence, but we think it is not without significance. At any rate one 60,000 ton plant has actually been erected since the war at a cost of Rs. 94 per ton of output. If allowance be made for the fall in prices during the last five years, and the recent rise in the rupee sterling exchange, the present-day cost should be substantially lower. On the whole, we think Rs. 80 per ton of output is a fair estimate of a normal capitalisation at present-day prices. The cost of a 40,000 ton plant

would be higher, and that of a 100,000 ton plant lower, but the former is on the small side, and the latter is too large, having regard to the present Indian consumption in any area which can conveniently be supplied from a single centre. We think that 60,000 tons may under present conditions be taken as normal.

Overhead charges—Depreciation.

47. Several of the Companies represented to us that the income-tax rates of depreciation were inadequate for a cement factory, owing to the heavy wear and tear to which the grinding and crushing machinery was exposed and the fact that the process of manufacture went on continuously night and day. We are not satisfied, however, that sufficient reasons have been advanced for a change in this respect, and we think that an all-round rate of $6\frac{1}{4}$ per cent. on the whole of the fixed capital expenditure is adequate. The income-tax rates do in fact work out to very near this figure, on the average, when applied to the cement Companies. Depreciation at $6\frac{1}{4}$ per cent. on Rs. 80 amounts to Rs. 5 per ton of output. We may add that no satisfactory estimate of the proper allowance for depreciation can be arrived at by averaging the figures presented by the different Companies. The fixed capital expenditure varies so widely, and in some cases is so excessive, that an average figure would be useless. It is for this reason that we have been compelled to determine the amount by a different method.

All-in cost f. o. r. Works.

48. The overhead charges determined in the foregoing paragraphs are as follows:—

	Per ton. Rs.
Head Office and Agency charges . .	1·75
Interest	1·25
Depreciation	5·0
TOTAL OVERHEAD .	8·0

The all-in cost f.o.r. works of the various factories will then work out as in the following table (see paragraph 42):—

	Per ton. Rs.
Katni group of Companies . . .	34—36
Gwalior Cement Company . . .	35—37
Bundi Portland Cement, Limited . .	38—40
Kathiawar group of Companies . .	41—43

Freight from the factories to the Ports.

49. It was explained in Chapter I that Indian cement was already in possession of the up-country markets, and that the competition of imported cement was formidable only in the great ports and in the areas as easily accessible from the ports as from the Indian cement factories. In estimating the price at which the Indian manufacturer can afford to sell in the ports,

the railway or steamer freight is a most important factor. The important figures are given in the table below:—

	Freight to port per ton.
	Rs.
Kathiawar group (to Bombay or Karachi) .	8·5*
Bundi (to Bombay)	13·5
Gwalior (to Bombay)	13·5
Gwalior (to Calcutta)	16
Katni group (to Calcutta)	11
Katni group (to Bombay)	15·5

The Katni group of factories is centrally placed and may be able to supply both the Eastern and the Western markets; the natural outlets for Kathiawar cement are Bombay and Karachi, while both Bundi and Gwalior are too remote to have much chance in Calcutta, and must sell in the Bombay area what they cannot dispose of up-country. So far as the freight to market is concerned, the Kathiawar factories have an advantage over the others, but this is merely an offset to the higher freight on coal. In the case of all the others the freight to the nearest port equals or exceeds the works costs other than power and fuel.

The manufacturer's profit and the fair selling price.

50. Having regard to the conditions under which money can be raised for industrial purposes in this country we do not think the fair return to the manufacturer on the capital invested can be taken at less than 8 per cent. This was the rate we adopted in considering the claim of the Steel industry to protection. If it were necessary to take into account the rate likely to attract fresh capital to the industry, it might be necessary to go even higher, but in existing circumstances that consideration is negligible. As the reasonable capitalization has been found to be Rs. 80 per ton of output, the fair return to the manufacturer at 8 per cent. is Rs. 6·5 per ton of cement. We are now in a position to determine at what price the manufacturer can afford to sell in the ports and still earn a reasonable profit. The figures are as follows:—

	All-in cost f.o.r. Works.	Freight to port.	Manufacturer's profit.	Fair selling price.
	Rupees per ton.	Rupees per ton.	Rupees per ton.	Rupees per ton.
Katni group (to Calcutta) .	34—36	11·5	6·5	52—54
Do. (to Bombay) .	34—36	15·5	6·5	56—58
Gwalior (to Bombay) . .	35—37	13·5	6·5	55—57
Bundi (to Bombay) . .	38—40	13·5	6·5	58—60
Kathiawar group (to Bombay or Karachi).	41—43	8·5	6·5	56—58

* The steamer freight is given as Rs. 6 a ton, but the landing charges at Bombay have to be taken into account.

In Calcutta the Katni group of factories should be able to sell at about Rs. 53 a ton. In the Bombay market they are at a disadvantage owing to the fact that, before reaching the Great Indian Peninsula Railway, their cement has to travel some 60 miles over the East Indian Railway, and for this section of the journey they have no concession in the matter of freight. If the factories were situated at the actual junction of the two lines, the freight to Bombay would be little, if at all, higher than to Calcutta, and they would be in an equally good position in both ports. As things stand, no factory can sell in Bombay at less than about Rs. 57.

Position of the Sone Valley Portland Cement Company, Limited.

51. We have already explained (paragraph 32) that the Sone Valley Portland Cement Company, Limited, declined to communicate to us any statement of their costs, and we are not therefore in a position to determine how its costs compare with those of the other cement works. As, however, we have taken the cost figures on the basis of equal efficiency in all factories, it may be worth while to attempt an estimate. The freight to Calcutta has been supplied to us by the East Indian Railway Administration; the coal freight cannot be accurately determined as we do not know what proportion is brought from the Jharia field and what from the much nearer Daltonganj collieries, but an approximate figure can be given. The figures are as follows:—

	Rs. per ton of cement.
Works costs other than coal or fuel	10—12
Cost of coal at the pit's mouth	4·5
Freight on coal	2
Packing	8
Overhead charges	8
Freight to Calcutta	7
Manufacturer's profit	6·5
Fair selling price	46—48

It will be seen that this Company ought to be in a position to undersell all Indian competitors in Calcutta. Whether it could actually do so depends on factors that we cannot determine. The raw materials may be more expensive than elsewhere, for the limestone has to be transported across the river Sone by an aerial ropeway, and the Company may be handicapped by its very heavy capitalization. All that can be said is that this Company, owing to its natural advantages, ought to be in the strongest position to resist foreign competition unaided.

General result of this Chapter.

52. The general results of the calculations made in this Chapter may be briefly summarised. The Indian manufacturer can sell cement at about Rs. 53 a ton in Calcutta, and Rs. 57 a ton in Bombay and still earn a reasonable profit, provided he can obtain a full output. A price of Rs. 53 a ton would suffice in Bombay

also if the Katni group of factories received for the whole journey to Bombay the same freight concession which they receive for the 616 miles from Jubbulpore to Bombay, and the question whether this concession could not be given might well be considered when the Great Indian Peninsula Railway comes under State management, as the East Indian Railway has already done. Karachi is as easily accessible as Bombay from the Kathiawar factories and the sea freight is the same, so that whatever price is fair in the one port is reasonable also in the other. No factory now working, except South India Industrials, Limited, is in a position to supply Madras as the distances are too great, but the new Shahabad factory will be only 425 miles from Madras, and as soon as it is opened, it should be able to lay down cement in Madras at about the same price as the Katni group of factories can do in Calcutta. If the cement companies can establish their position in Calcutta, Bombay, Madras and Karachi they command the Indian market, with the exception of Burma. The inferences to be drawn from these figures, and the recommendations to which they lead form the subject of the next Chapter.

CHAPTER III.

The Board's Conclusions and Recommendations.

Price of imported Cement not likely to go lower.

53. We explained in Chapter I that the Cement industry possessed natural advantages in the sense demanded by the Fiscal Commission, but there are two other conditions to be satisfied. One is that the industry should eventually be able to meet world competition without extraneous aid. The industry can already hold its own up-country, where the railway freight handicaps the importer, and the main question is whether it can do so in the great ports. With export prices at their present level and the sterling exchange at 1*s*. 6*d*. to the rupee, British cement can be landed, duty free, at Calcutta or Bombay at about Rs. 48 a ton. According to the Trade Returns, the average value of imported British cement during the five years immediately preceding the war was Rs. 41 a ton, and during the last two of these years Rs. 44. According to the evidence of the cement manufacturers, cement was selling in Bombay at from Rs. 45 to Rs. 50 a ton during the same years, and at that time the Customs duty was only 5 per cent. The rise in the rupee sterling exchange from 1*s*. 4*d*. to 1*s*. 6*d*. means a reduction in the landed price of imported cement of about Rs. 5 a ton. If allowance be made for this factor, then the present price will be Rs. 48 a ton as compared with Rs. 40* pre-war, *i.e.*, the increase is only 20 per cent. Evidence has been given moreover which suggests that the British export price is not a remunerative one. Our attention has been called to the statement in the Annual Report of Associated Portland Cement, Limited, dated 15th April 1923, that "To hold our old standing (export market) connections it has been necessary to sell at net works cost and occasionally even lower." The Central Provinces Portland Cement Company, Limited, also informed us that in 1924 the export price of British cement was £2-7-6, and the price for domestic consumption £2-18-0 to £3, and whereas the export price includes the cost of barrels, the domestic price is exclusive of the cost of bags which are paid for separately. We have not been able to verify this statement, but, if the figures given by the Company are correct, the actual price paid by the British consumer, including the bags, is £3-15-6 to £3-17-6 a ton, and the difference between the domestic and export prices is 30 shillings a ton. It would almost certainly follow that the export price was unremunerative. In view of the evidence we have taken we can find no reason for anticipating a further fall in the price of British cement, and in periods when trade is prosperous the price may well be higher. If the Indian manufacturer can ultimately sell at a profit below Rs. 50 a ton, and if the quality of the cement he manufactures is satisfactory, he can hold his own in Calcutta and Bombay against world competition.

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* Converting the pre-war sterling c.i.f. price at 1*s*. 6*d*. to the rupee.

Eventual reduction of fair selling price to below Rs. 50.

54. It was shown in Chapter II that, given a full output, one Company might be able to sell at a profit in Calcutta at about Rs. 47 a ton and the three Companies in the Katni group at about Rs. 53. No Company is apparently in a position to sell in Bombay at less than Rs. 56 a ton, but the Katni group could sell at Rs. 53 if they received the same freight concessions as they do to Calcutta, and it is possible that the new Shahabad factory may be in an equally advantageous position. The main question to be decided is whether the Indian manufacturer can ultimately bring down his costs by Rs. 4 or Rs. 5 a ton below what is apparently possible at present. We believe that this can be accomplished, but it is necessary to point out that, of the various elements which go to make up the fair selling price, the majority are not within the control of the manufacturer. By efficient management he may be able to reduce the coal consumption, the works costs other than power and fuel, the Head office expenses and indirectly the interest on working capital, but the price of bags, the price of coal and the railway freights on cement and coal are beyond his power. The allowances we have made for depreciation and the return on capital are not susceptible of reduction, for there is no particular reason to think that the fixed capital expenditure necessary for the construction of cement works is likely ultimately to be smaller than it is at present. It should be possible, we think, for the manufacturer to bring down the costs by Rs. 2 or Rs. 3 a ton, and in course of time a reduction of Rs. 2 a ton in railway freights on coal and cement may be possible. On the whole, we think there is a reasonable assurance that the Cement industry will eventually be able to meet world competition at the ports without special assistance.

Result to the industry if protection is not given.

55. The third condition laid down by the Fiscal Commission was that without protection the industry was not likely to develop at all, or not likely to develop as rapidly as was desirable in the national interest. This condition, as worded, is almost ludicrously inapposite to the Cement industry, which is suffering much more from over-development than from any other cause. It would be wrong, however, to put a pedantically literal construction on the wording. The test will be satisfied, we think, if it can be shown that the industry is in serious danger of disappearing, or is likely to be driven out of its principal market in the ports. Here there are two things to be said. It is not at all likely, so long as the Customs duty remains at 15 per cent., that the Cement industry would entirely disappear. The freight advantage in the up-country market would keep some of the concerns alive, and the natural advantages of the Sone Valley Company are sufficiently great to enable it to compete in Calcutta. At the very worst, the Punjab Company, the Sone Valley Company and one or two others would probably survive, for the Punjab Company would sell its entire output in its naturally protected market, and the others could retain a foothold in Calcutta and Bombay

so long as they realized a higher profit on what they sold up-country. Between them they might be able to dispose of 150,000 to 180,000 tons. The second point is that, if the consumer were prepared to pay the same price for Indian cement as for British, there would be no need for protection at all, because a price of Rs. 57 a ton would be profitable to any factory producing to capacity. The need for additional assistance arises entirely from the consumer's preference for British cement. In these circumstances it is important to ascertain approximately what difference in price would overcome this preference.

Difference in price at which Indian Cement would displace British.

56. The present difference in price between Indian and British cement cannot be taken as a fair measure of the consumer's preference for the latter, because, as already explained, the present price of Indian cement is regulated purely by internal competition. We have not succeeded in getting much direct evidence on this point. Mr. Billimoria, giving evidence for the Indian Cement Company, Limited, expressed the view that about Rs. 8 a ton would cover the difference, the Central Provinces Portland Cement Company, Limited, put the figure somewhat higher—at from Rs. 10 to Rs. 15 a ton—and Messrs. Jessop and Company say that an unbiassed user would always use local cement if its price were 15 per cent. cheaper than British. We attach some importance to the fact that during the first nine months of the current official year 27,600 tons of cement were imported into Calcutta, and only 4,600 into Bombay.* The inference seems to be that Indian cement has established a stronger position for itself in the latter market than it has in the former. On the whole, we think that a difference of about Rs. 8 a ton would enable the manufacturers to retain and strengthen their hold on the Bombay market, but that in Calcutta, where they have more lee-way to make up, the difference of about Rs. 12 would be necessary if rapid progress in capturing the market is to be made.

Probable decline of the cement industry if protection is not given.

57. On the basis of the figures in the last paragraph, Indian cement should, with the present duty, sell at about Rs. 45 in Calcutta and Rs. 49 in Bombay. These prices would about cover the actual cost of the cement landed in the port, provided the factory was getting a full output, but, except in the single case of the Sone Valley Portland Cement Company, it leaves no margin at all for a return on the capital invested. So long as the factories are operating only to a fraction of their full capacity, these prices would involve an actual loss. In the circumstances it seems inevitable that all but three or four of the factories should go out of production. We think that the third condition laid down by the Fiscal Commission is satisfied in the sense that unless assistance is given, more than half the Companies

* These figures have been obtained from the Director General of Commercial Intelligence.

will have to shut down. If, on the other hand, they are protected for the next four or five years, it should be possible to preserve the great majority, if not all.

Inability of the manufacturer to utilize his advantages in the up-country market.

58. Before we pass on to an examination of the various possible methods by which the industry might be assisted, there is one more point to be discussed. It was explained in Chapter I that in a large part of Upper India, the railway freight on imported cement was effective as a natural protection to the Cement industry. It is a fair question to ask whether it would not be possible for the Indian factories to take advantage of this fact, and, by charging a higher price up-country, accept a lower price in the ports and still make a reasonable profit on the output as a whole. If, for example, a factory could sell a quarter of its output up-country at Rs. 60 a ton, and the remaining three-quarters in the ports and adjacent areas at Rs. 50 a ton, the average price would be Rs. 52·5 which is not far short of a fair price. Theoretically, it would be quite possible to exploit the up-country market in this way by a mutual arrangement between the Companies, but in existing circumstances it would probably be a very short-sighted policy to adopt, for it would almost certainly result in stopping the growth of consumption and might even cause a decrease. For the present the main object of the industry must be to stimulate the use of cement and not to restrict it, and to charge a high price might be fatal. This can best be illustrated from the evidence of one of the Companies. The Punjab Company has a contract with the Punjab Government to supply half the cement required by the latter at a price varying from Rs. 42 to Rs. 50* a ton, according to the cost of production. As large quantities of cement were expected to be used on the Sutlej Valley Project, the contract was a valuable one for the Company. It was found, however, that cement purchased under this contract would be so expensive that the advisers of the Local Government had practically decided to dispense with the use of cement, and to use lime instead. This course was only averted by the execution of a special contract for the supply of cement to the Sutlej Valley Project at Rs. 33 a ton f.o.r. works. Had the Company stood out for the price originally fixed, they would have lost orders for cement amounting to 30,000 tons or more during a period of three years.

No allowance necessary for possible higher output on up-country sales.

59. We are satisfied that at present no allowance need be made for the theoretical possibility that the cement Companies might charge a higher price up-country than in the ports. It may be suggested, however, that the Companies could probably realize the same price up-country as they do in the ports, and in that case, owing to the lower railway freight from the factory, the profit would be higher. From figures supplied by

* Apparently these prices are f.o.r. works.

one concern it seems probable that the average saving in freight might be Rs. 4 per ton, and if this were realized on one-quarter of the factory's production it would mean an extra profit of Re. 1 per ton on the whole output. We do not propose, however, to make any allowance on this account in our proposals. The argument is theoretically correct, and it is not impossible that, if internal competition became less severe, the up-country sales might be more profitable to some of the Companies, than their sales in Calcutta or in Bombay. But it is only a possibility, and the difference it would make is not large.

Proposed duty of Rs. 25 a ton not recommended.

60. What the manufacturers have asked for is the imposition of a specific duty of Rs. 25 a ton which they hope will prove prohibitive and will enable them speedily to capture the whole Indian market. There are several reasons which make it impossible for us to support this proposal. In the first place, a duty of Rs. 25 a ton is much higher than is necessary to enable the industry to establish itself in every Indian market except Burma. It would raise the price of imported cement in the ports to Rs. 73 a ton and the Indian manufacturer could then sell at Rs. 65 in Bombay and Rs. 61 in Calcutta, and these prices are excessive. In the second place, it is doubtful whether even this 50 per cent. duty would suffice to displace British cement by Indian in Rangoon. Owing to the moist climate the preference for cement packed in barrels is very strong in Burma, and even a difference of Rs. 12 a ton in the price might not induce the consumer to accept Indian cement. If the difference be taken at Rs. 15 (it might be higher), then the Indian manufacturer would be able to sell at Rs. 58 a ton, but owing to the heavy freight charges this would not be a remunerative price. A lack of direct sailings from Bombay to Rangoon appears to shut out the Kathiawar factories, and the Dwarka Cement Company, Limited, gives the freight to Rangoon as Rs. 30 a ton, which probably includes the cost of rail transport from Bombay to Madras. The freight to Rangoon from the Katni group of factories is about Rs. 25 a ton, and from Japla in the Sone Valley about Rs. 21 a ton. Selling at Rs. 58 a ton in Rangoon, the Sone Valley Company would realize Rs. 37 at the works, and the Katni group Rs. 33. These prices leave a small profit to the first Company and entail an actual loss to the other three. In the third place, the proposal is open to objection, because, unless the freight charges could be halved, there seems to be no possibility that the Indian Companies could ever hold their own in the Burma market without protection, for their natural advantages are not sufficiently great. If the scheme of protection is to include Burma, then protection will be needed in perpetuity.

Impossibility of assisting the industry in present circumstances.

61. There is another objection to any attempt in existing circumstances to assist the industry by a heavy protective duty. We pointed out to the manufacturers in oral examination that, so long as they were engaged in internecine con-

flict amongst themselves, a protective duty would be inoperative, because the price would still be regulated entirely by internal competition. To this suggestion the reply was that the works would at any rate secure a 50 per cent. increase in output, and they would benefit by the consequent reduction in costs. But none of the witnesses was able to explain why the reduction in costs should not be followed by a further lowering of the price. The plain fact is that, so long as the Companies are prepared to sell down to the actual works costs, or even lower, it is impossible for them to benefit from protection. Protective duties are effective only in so far as the price of the protected commodity is regulated by the price of imports, and this condition is not fulfilled. If the manufacturer insists on passing on to the consumer any reduction he makes in his costs, neither Government nor any one else can help him. This objection applies with special force to a protective duty, which increases the price paid by those consumers who consider it essential to use British cement without benefiting the Indian manufacturer, but it is also applicable to all forms of assistance which, directly or indirectly, enable the manufacturer to sell cheaper. It is true that no consumer is injured in that case and most consumers would be benefited. But the manufacturer gains nothing, and there is no particular reason why the consumers of cement should be subsidised at the expense of the taxpayer.

Period of intense internal competition likely to be short.

62. If the present intensity of competition between the factories could be permanent, the argument might be dropped at this point, for it would be idle to devise means of helping an industry which could not accept the assistance tendered. But it is quite certain that the period of violent price-cutting cannot continue much longer, and must be regarded as a purely temporary phase. It may terminate either by the formation of a combine amongst the manufacturers, or by the elimination of the weaker firms in the struggle for existence, or by a combination of both methods. Attempts have already been made to form a combine, and though these were abortive it is by no means unlikely that they will be renewed with success, especially if one or two factories drop out of the fight. But by whatever means it is brought about, the result is the same. Some of the factories will suspend production, the survivors will be able to manufacture to capacity, and simultaneously costs will go down and the selling price will go up. It is for this reason that the costs ascertained in Chapter II were based on the assumption that the factories would secure a full output. The primary remedy for the complaint from which the industry is suffering, lies in the hands of the manufacturers themselves. Costs are high, and prices are low, simply because there are too many factories, and it is within the power of the cement Companies to redress this state of affairs tomorrow if they choose to do so. If they are unable to come to an agreement and prefer to pursue a policy of mutual extermination, the remedy will automatically be applied by economic forces. We consider it certain that before very long Indian cement will again be selling in the ports at prices determined by the price of

cement imported from the United Kingdom. It will be our object in what remains of this Report to explain what assistance the industry will then require if its position is to become firmly established.

Bounties preferable to protective duties.

63. There are certain general considerations in the light of which all remedial measures must be examined. In the first place, the object of giving assistance at all must be to keep alive as many factories as possible during the difficult period when Indian cement is gradually displacing imported cement, and consumption falls far short of capacity. It may be impossible that all the factories should survive, but certainly it is desirable to keep the mortality amongst them as low as may be. We have already explained in Chapter I that no rapid growth in consumption can be expected unless the price remains relatively low. That being so, measures which can only benefit the manufacturer by raising the price of cement substantially are open to objection. The assistance ought, as far as possible, to take a form which will enable the producing firms to sell at a lower price without sacrificing all profits. If protection is given, it should be by means of bounties rather than of Customs duties.

Proposals must be workable whether a combine is formed or not.

64. The second point which must be kept in view is this. It is impossible to be certain whether the Companies will pursue their warfare to the bitter end, or whether they will form a combine, and in the latter case whether the combine will come into existence at an early date and include nearly all the existing firms, or whether its formation will be postponed until several factories have been eliminated and the productive capacity of the survivors does not greatly exceed the demand of the markets accessible to them. It follows that the measures proposed must be so framed that they will work with reasonable smoothness whether the cement works remain independent or not. Any combine which included all, or nearly all, the existing factories, would be compelled in its own interest to stimulate consumption, and for that reason would be unlikely to raise prices to a high level. Any attempt to exploit the consumer under cover of a tariff wall would defeat its own object, for the immense capital lock-up would continue and there would be no hope of its becoming productive. If, however, the productive capacity of the factories included in the combine did not much exceed consumption, it is not impossible that its policy might be different. We do not think the danger is great, for the up-country consumer can to a large extent protect himself against exploitation by ceasing to use cement, and a reduction in the demand would compel the cement manufacturer to bring down his price.

Position of Burma if protective duties imposed.

65. The considerations brought to notice in the last two paragraphs suggest that, in the scheme of protection, Customs duties can only play a limited part. There is another reason which

supports this conclusion. If the protection given is based on what is sufficient to enable the Indian manufacturer to command the market in Calcutta, Bombay, Madras and Karachi, it will not enable him to enter the Burma market with any hope of success. An unnecessary burden will then be laid on the Burmese consumer without any benefit to the Indian manufacturer. We think it is clearly advisable that the additional assistance required by the industry should be given mainly in the form of bounties or subsidies.

Bounty on production not recommended.

66. The simplest scheme would undoubtedly be a bounty on production, but it is open to the objection that it gives assistance where assistance is not needed. It is only in the great ports and the areas to which imported cement has as easy access through the ports as Indian cement has, that protection is required. In the up-country markets Indian cement can already hold its own unaided, and a bounty on production would involve unnecessary expenditure. If the circumstances of all the factories were identical, this difficulty could be overcome by a process of averaging. If, for example, a bounty of Rs. 8 a ton were required in the ports, and all the factories sold three-quarters of their output in that market, a bounty of Rs. 6 a ton on the whole production would be fair. But in fact there is no sort of guarantee that each Company will sell the same proportions of its output up-country and in the ports. A uniform bounty on production would be unduly generous to the Punjab Company, which is not exposed to foreign competition at all, and unfair to the Kathiawar factories, which are practically shut off from the up-country markets by the high freights on the Kathiawar Railways. For these reasons we are unable to recommend a uniform bounty on production.

Possibility of subsidising cement and coal freights.

67. An alternative scheme would be to proportion the assistance received by each Company to the disadvantage under which it labours in respect of its distance from the coalfields and from the ports. This would be practically equivalent to a reduction in railway freights. We enquired from the Railway Administrations concerned whether anything could be done in this direction, but all of them have expressed their inability to reduce either coal or cement rates in existing circumstances below their present level. The Railways have already given special concession rates on cement booked through from the factories to the ports, and these rates are lower by from Rs. 3 to Rs. 4 a ton than the ordinary rates calculated by distance. That being so, we are not in a positon to impugn their refusal to do anything more. If anything is to be done in this way, it must be subsidising the freights on coal and cement at the expense of general revenues.

Importance of cheap coal to industrial development.

68. The railway freight on coal per ton of cement varies according to the situation from about Rs. 2 at Japla in the Sone Valley and Rs. 3·5 at Katni to Rs. 10·5 at Porbunder in Kathiawar. If a

subsidy equal to half the freight on coal were granted, the amount of assistance each company would receive would also vary, and the variation would be sufficient to affect appreciably the power of the Companies to compete with each other in the Indian markets. In this respect the scheme is open to criticism. It might also be argued with some force that the grant of such concessions should not depend on the accident that the Board has happened to investigate a particular industry when there are other struggling industries equally in need of assistance. A general reduction of coal freights would not be open to this objection, for all industries would benefit alike, but a recommendation of that nature presupposes a preliminary enquiry in which both the needs of the industries and the cost of the concession would be fully examined. On the materials we have before us we should not be justified in putting forward a scheme of that kind. Nevertheless the conviction has been strengthening in our minds that the question of the cost of coal is vital if the end in view is a rapid industrial development in India. Over a large part of the country progress may be seriously retarded unless the freight on coal can be reduced substantially. We believe that no one would challenge the proposition that coal freights on the Indian railways should be kept at the very lowest point which is commercially possible. But more than this may be required in the interests of industrial development. Sooner or later, the country may have to face the question whether it would not be worth while to secure a substantial reduction in coal freights at the cost of sacrificing part of the contribution which the Railways make to general revenues.

Bounties proportionate to freight on Cement to the Ports not recommended.

69. A subsidy which, in the case of each Company, took the form of a proportionate reduction of the freight to the ports is also open to serious objections. It would be necessary to determine for each factory the port (or ports) to which the scheme would apply, for unless this were done public funds might be spent unnecessarily. It would be obviously uneconomic to subsidise the transport of cement from Katni to Madras, from Lakheri to Calcutta, or from Japla to Bombay, to give only three examples, when there are other factories much more easily accessible. But here difficulties at once arise, for it would not be possible apparently to restrict the subsidy only to consignments to the nearest port. The Bundi and Gwalior factories would presumably receive the subsidy only on cement sent to Bombay, but the Kathiawar factories would get the benefit of it both in Bombay and Karachi, and the Shahabad factory both in Bombay and Madras. The Katni group of factories would be fairly entitled to the concession both in Calcutta and Bombay, for they are almost equidistant from the two ports, and though the freight to Bombay is higher by Rs. 4 a ton, they are not unfavourably situated in that market as compared with the other Companies. Any scheme of this sort almost inevitably involves an artificial limitation of the ability of the firms to compete with each other in certain markets. If, indeed, a combine were formed, that would not matter much, but it is by no means certain that any amalgamation of interests will take place, and our proposals must be such that

they can be worked whether there is a combine or not. If particular ports are assigned to particular factories in the scheme of protection, the lines on which a combine would have to proceed will in effect be laid down in advance, for it might easily pay to keep one set of factories working if there were no bounties, and a different set if there were. Theoretically, the Kathiawar factories have an advantage of Rs. 2 a ton over the Bundi factory in Bombay. If each received a subsidy equal to half the freight, the Kathiawar factories would get Rs. 3 and Bundi nearly Rs. 7. The relative advantage would be almost exactly reversed. In the face of these difficulties we are unable to recommend any scheme under which the assistance received would be proportionate to the freight from the factory to the port.

Bounties should be uniform and paid only on Cement consigned to the Ports.

70. The conclusion to which our consideration of the subject has led us is that whatever bounties are given should be at a uniform rate for all factories and should be paid only on cement consigned to those areas in which the competition of imported cement is seriously felt. All the factories will then be in the same relative position as before, and none of them will be unfairly advantaged or penalized in competition with the others. There are, however, two exceptions to be made and something must be said about each.

No bounty to be paid on Cement delivered under contract with Bombay Development Department.

71. In 1922 four* of the cement Companies made a contract with the Bombay Development Department for the supply of cement during a period of ten years on a costing basis. The Department was entitled under the contract to take 60,000 tons of cement annually and, if its requirements fell short of that quantity, the Public Works Department of the local Government, the Municipal Corporation, the Port Trust and the Improvement Trust, were to be entitled to take up the balance on the same terms. With the exception of the Port Trust, the other authorities did in fact become parties to the contract, but the aggregate demand has not yet amounted to 60,000 tons in any one year. Under the contract the price is fixed separately for each of the Companies concerned according to its costs for the year, and the specification of the costs which may be taken into account is very comprehensive including, as it does, both Income tax and Super tax. To the total costs the Company is permitted to make an addition of 15 per cent. as its profit. This contract no doubt appeared to be a favourable one to the purchasers when it was made, but it has turned out very much the reverse in actual practice, for the price payable under it may be as much as double the price for which Indian cement can now be purchased in Bombay. We propose *that no bounty should be paid on cement delivered under this* contract. It would indeed be absurd to make any addition to a very remunerative price.

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* Bundi Portland Cement, Limited, the Dwarka Cement Company, Limited, the Katni Cement and Industrial Company, Limited, and the Jubbulpore Portland Cement Company, Limited.

72. We explained in paragraph 32 that the Sone Valley Portland Cement Company, Limited, had refused to disclose its costs or to depute a representative for oral examination. In these circumstances it is impossible to ascertain whether any assistance is required and, if so, what the amount should be. If our estimate of the price at which the Company (given a full output) can sell at Calcutta and still earn a fair profit is approximately correct, the amount needed would be very small. We consider it essential that the applicants for protection should disclose their costs, and on this ground alone we could not recommend the payment of any bounty to the Company. We may, however, add that the Company is a private one, and that the capital is believed to be held almost entirely by the British firms which are united in Associated Portland Cement, Limited. If that be so, the provision of Section 5 of the Steel Industry (Protection) Act, 1924, may be a bar to any recommendation in its favour. That section was modified when the Bill was before the Legislature, not on account of circumstances peculiar to the Steel industry, but on perfectly general grounds. It provides that the bounty on steel rails should not be payable to any Company unless—

No bounty to be paid to the Sone Valley Portland Cement Company, Limited.

(*a*) It has been formed and registered under the Indian Companies Act.

(*b*) It has rupee capital.

(*c*) A proportion of the Directors, to be fixed by the Government of India, are Indians.

As the Sone Valley Portland Cement Company, Limited, declined to send a representative for oral examination, we had no opportunity to ascertaining how far these conditions are satisfied in this case.

73. In paragraph 50 the fair selling price for Indian cement in Calcutta (given a full output) was ascertained to be Rs. 53 a ton and in Bombay Rs. 57 a ton. The selling price of imported British cement in the ports, subject to the existing duty of Rs. 9 a ton, we have found to be Rs. 57 a ton. The difference in price at which Indian cement would likely displace British we have estimated to be Rs. 8 a ton in Bombay and Rs. 12 a ton in Calcutta. It is these data which determine the amount of protection required. The object in view will be achieved if the price of imported Cement in the ports is raised to Rs. 65 a ton, or alternatively if the manufacturers receive a bounty which enables them to sell at Rs. 45 a ton in Calcutta and Rs. 49 a ton in Bombay.

Amount of assistance required by the Cement industry.

74. We consider it desirable that, if possible, the whole of the assistance required should be given in the form of a bounty, the present Customs duty being converted into a specific protective duty of Rs. 9 a ton. An increase in the duty could benefit the manufacturer only by

Specific protective duty of Rs. 9 a ton, and bounty of Rs. 8 a ton recommended.

enabling him to sell at a higher price, and in existing circumstances the price must be kept low if consumption is to expand. The present consumption is 390,000 tons a year, of which approximately 265,000 tons are produced in India and 125,000 tons imported. The distribution of the consumption over the various areas is very approximately as follows:—

Areas.	Indian cement.	Imported cement.	Total.
	Tons	Tons	Tons
Calcutta and adjacent areas	46,000	44,000	90,000
Bombay ,,	110,000	10,000	120,000
Madras ,,	5,000	23,000	28,000
Karachi ,,	4,000	10,000	14,000
Up-country market	100,000	..	100,000
Burma	..	38,000	38,000
Total	265,000	125,000	390,000

The bounty would be payable only on cement consigned to, and *viâ*, the four great ports and their adjacent areas, but about 35,000 tons must be deducted on account of deliveries under the contract made by the Improvement Trust, and about 30,000 tons on account of cement despatched to Calcutta by the Sone Valley Portland Cement Company, Limited. After making these deductions the total quantity of cement on which the bounty might be payable would be 187,000 tons. But it would reach this figure only if imported cement was entirely displaced, and it is unlikely that this would come about for 3 or 4 years. If the bounty were sanctioned for a period of 5 years, the quantities of cement affected would be lower during the first two years, and larger during the last two, owing to the probable increase in consumption. On the whole, a fair estimate would probably be 140,000 tons in the first year, rising by 20,000 tons annually to 220,000 tons in the last year. The cost of a bounty of Rs. 8 per ton would in that case be Rs. 11·2 lakhs in the first year, and would rise by Rs. 1·6 lakhs annually to Rs. 17·6 lakhs in the fifth year.

Alternative scheme—Protective duty of Rs. 12 a ton and bounty of Rs. 5 a ton.

75. If the expenditure involved in the scheme is considered excessive, then the cost can be limited by restricting the bounty to Rs. 5 a ton and raising the Customs duty to Rs. 12 a ton. The cost of the bounty would then be Rs. 7 lakhs in the first year, rising by Rs. 1 lakh annually to Rs. 11 lakhs in the

fifth year. We do not advocate this plan, because we are anxious to suggest nothing which might retard the growth of consumption. But an increase of Rs. 3 a ton in the price would probably be inappreciable, and we do not consider that the alternative scheme is open to serious objection. At Rs. 60 a ton the price of British cement is only 33 per cent. above the pre-war level, and the burden on the consumer would be very small. In Burma, at the present rate of consumption, the difference in the price paid for imported cement would be less than Rs. 1 lakh in all, and in the rest of India about Rs. 2 lakhs. But the Indian consumer has the alternative of purchasing Indian cement at a very much lower price, and need not carry any extra burden at all. Our reluctance to see the present duty raised arises solely from the belief that it might be prejudicial to the industry and not from any apprehension that the consumer would be unduly penalized.

Bounties to be payable on consignment through and *viâ* the Ports.

76. In order that our proposals may be clear it is necessary to define more precisely the conditions under which the bounty would be payable. In the first place the bounty should be payable on all cement despatched through or *viâ* Calcutta, Bombay, Madras and Karachi. If Indian cement can find its way to an Indian market only through one of the ports the need for assistance in that market is precisely the same as in the port itself. The bounty would therefore be payable on cement despatched *viâ* any of these ports to Burma. We do not think it likely that any large quantities will in fact be sent to that market unless additional assistance is given, and the proposal now under discussion was not made with that object; but if any of the Indian factories can increase their output by a certain amount of "dumping" in Burma there is no reason for objection. The same considerations also apply to the cement intended for export. It does not seem possible under existing conditions to develop an export trade of any magnitude, but such attempts in that direction as may be made ought not to be discouraged.

Bounties to be payable on consignments to all Railway stations within a certain radius of the Ports.

77. The bounty should also be payable on cement despatched to any station within a certain radius round each port. The concession freight rates, granted only on consignments which are booked straight through to the terminus, are lower by Rs. 3 to Rs. 4 a ton than the schedule rates calculated on distance. The result is that, in the immediate vicinity of a port, Indian cement competes on less favourable terms with imported cement than in the port itself. If the bounty were payable only on consignments to the ports, this condition of things would be greatly aggravated, and it would be quite possible for the cement Companies, in order to earn the bounty, to book cement through to the terminus and then re-book it up the line. It is not desirable that unnecessary transport of this kind should take place. At present if Indian and imported cement compete on level terms at a port, then, taking into account the cost of handling at the terminus, at a distance of 25 miles up the line Indian cement is at a disadvantage of

rather more than one rupee, at 50 miles there is no advantage or disadvantage either way, and thereafter Indian cement has an advantage of a little more than one rupee a ton for every 25 miles traversed. If the bounty at the ports is fixed at Rs. 8 a ton, then it should be paid at that rate on consignments to stations within 75 miles of a port and Rs. 4 a ton on all stations from 76 miles to 150 miles. If the bounty in the ports is limited to Rs. 5 then it should be paid at the same rate on consignments to stations within 50 miles of a port and at Rs. 3 on consignments to stations from 51 to 100 miles.

Bounties to be payable on all sales made by South India Industrials, Limited.

78. One quite exceptional case remains for discussion. Our proposals, as formulated up to this point, would not permit the payment of any bounty to South India Industrials, Limited, on cement sold in Madras, because the factory itself is at Madras. We consider that in this case the bounty should be payable on all cement sold by the Company. It is indeed obvious that, to whatever market the cement made in this factory may be sent, it is still in competition with imported cement to exactly the same extent as in Madras. It may be argued that South India Industrials, Limited, has not the disadvantage, under which the other factories suffer, of a high freight to its principal market, but it has to pay a very high freight on its coal, and its raw materials are expensive. We do not think it would be just to exclude this concern from participation in the scheme of bounties.

Returns to be submitted by Cement factories.

79. We have considered whether it would be possible to recommend any scheme for the gradual reduction of the scale of bounties, and their eventual abolition at the end of a certain period. We do not find it possible, however, to make definite proposals. It is exceedingly difficult to forecast the growth of consumption or the rate of progress likely to be made in displacing imported cement, and the need for the continuance of protection will be governed almost entirely by these factors. We consider it advisable, however, that the Government of India should be in a position to keep the course of events under close observation, and with this object we recommend that every factory receiving the bounty should be required to submit half-yearly to the Government of India returns of its output and sales. The return of sales should show the average price at which orders were booked during the half year, both f.o.r. works and including freight to destination, the figures being given separately for three classes of cement—

(*a*) Cement intended for a destination which entitles the factory to a bounty. It would be convenient to have the figures separately for each of the four areas.

(*b*) Cement sold under the contract with the Bombay Development Department.

(*c*) Other sales.

The information thus obtained will suffice to indicate whether a reduction in the scale of bounties should be considered.

80. We have one more recommendation to make. If public funds are to be expended in order to benefit the Cement industry, it is of the utmost importance that the quality of Indian cement should be maintained. This is desirable not only in the interests of the consumers, but quite as much in those of the industry itself, whose prospects might be seriously injured by any lowering of the quality in even one factory. We recommend that samples of the cement manufactured should be sent quarterly to be tested at the Government Test House, Alipore, by every factory which receives the bounty, and reports as to the results submitted to the Government of India. In addition, we recommend that arrangements should be made whereby the fees usually payable on the tests of cement in the Test House should be remitted altogether or reduced to a nominal amount. It will do something to stimulate the use of Indian cement if purchasers know that they can at any time satisfy themselves as to its quality by tests carried out by an independent and competent authority.

Testing of Cement.

81. Before we summarise the proposals we have made in this Chapter, we desire to recall what has already been said in paragraphs 61 and 62. So long as the Indian factories are prepared to cut prices to the bone in order to undersell each other, they cannot derive benefit either from protective duties or from bounties. All our recommendations, therefore, are necessarily contingent and must be inoperative until the condition of the industry has been radically changed. In the circumstances, we might have confined ourselves to the simple statement that, at the industry was incapable of accepting any assistance which the Government of India might offer, we had no proposals to make. We have refrained from taking what was in many respects the obvious and simple course, because we were unwilling that our enquiry should terminate without any indication of the lines on which help could best be given to the industry, and because we believe that the period of intense internal competition cannot be of long continuance. But it is obvious that in making proposals which are not to take effect until a preliminary condition is satisfied we incur a certain risk, for if, contrary to our expectation, the struggle between the Indian factories should be protracted, the facts and circumstances might have so changed before the condition was satisfied, that the remedies suggested would no longer be appropriate. We recognize that there is a difficulty here and we think it must be provided for.

Proposals not operative until a preliminary condiiton is satisfied.

82. We recommend that, in any measure which may be placed before the Legislature with the object of giving effect to the recommendations in this Report, provision should be made that the Act will not come into force until after the issue of a notification by the Government of India. The Act should also empower the Governor-General in Council, if satisfied, after such enquiry as he may consider neces-

Bill not to take effect until Notification is issued by the Government of India.

sary, that the price of Indian cement in the ports is in such a relation to the price of imported cement that the payment of bounties would not lead to a reduction in the price of Indian cement, to make a declaration to that effect and to notify that the Act would then come into force. If, however, no such notification were issued within one year from the date when the Act became law, then the Act should cease to operate. We consider it important to make it clear that, if in the end it proves impossible to assist the industry, the responsibility will rest exclusively on the shoulders of those who direct its management.

Mr. Ginwala's proposal.

83. Mr. Ginwala does not share the views expressed in paragraphs 81 and 82. He is in entire agreement with the other Members both as to the impossibility of assisting the industry directly, so long as the cement factories are engaged in mutual warfare, and as to the extent of the assistance necessary were they in a position to receive it. But he is unable to concur in a proposal which might defer action indefinitely, and he feels that the immediate grant of the bounty, although it did not benefit the manufacturer, would at any rate stimulate the growth of consumption by reducing the price of cement, and so in the long run prove advantageous to the industry. His proposal is that the bounties should be paid with effect from the date when the Bill becomes law, but should cease to be payable at the end of two years unless before the end of that period the cement Companies were able to satisfy the Government of India that the price of Indian cement in the ports was in such a relation to the price of imported cement that the bounty would no longer be passed on to the consumer. The President and Professor Kale share Mr. Ginwala's dislike of deferred and contingent proposals, but they are unable to recommend the expenditure of public funds when the resulting benefit to the industry is remote and uncertain. They believe that the recommendation made in paragraph 82 is the best of which the circumstances admit.

Summary of recommendation.

84. The proposals we have made in this Chapter may be summarised as follows:—

(1) A bounty of Rs. 8 per ton should be paid on all cement consigned from an Indian factory through or *viâ* Calcutta, Bombay, Madras or Karachi, or to any Railway station not more than 75 miles from these ports.

(2) A bounty of Rs. 4 a ton should be paid on all cement consigned from an Indian factory to any Railway station more than 75 but not more than 150 miles from any of these ports.

(3) No bounty should be paid to any factory on cement delivered under the contract between certain cement Companies and the Bombay Development Department, or to the Sone Valley Portland Cement Company Limited.

(4) In place of the present revenue duty of 15 per cent *ad valorem* a specific duty of Rs. 9 a ton should be imposed on imported cement and declared protective.

(5) If the cost of proposals (1) to (4) is considered excessive, the scheme may be modified as follows:—

(*a*) The bounty to be fixed at Rs. 5 a ton at the ports and at all Railway stations not more than 50 miles distant from the ports.

(*b*) The bounty to be fixed at Rs. 3 a ton at all Railway stations more than 50 but not more than 100 miles distant from the ports.

(*c*) A specific duty of Rs. 12 a ton to be substituted for a specific duty of Rs. 9 a ton.

*(6) Whichever scheme may be adopted, it should not come into force until the Government of India are satisfied that the price of Indian cement in the ports is in such a relation to the price of imported cement that the payment of bounties would not lead to a reduction in the price of Indian cement.

(7) If any cement factory is situated at a port, the bounty should be payable on the whole of its sales.

(8) Every cement factory rceiving the bounty should submit half-yearly returns of its output and sales to the Government of India. The return of sales should show the average price at which orders were booked during the half year, both f.o.r. works and including freight to destination, the figures being given for—

(*a*) Sales in the Calcutta area to which the bounty extends.

(*b*) Sales in the Bombay area.

(*c*) Sales in the Madras area.

(*d*) Sales in the Karachi area.

(*e*) Sales under the contract with the Bombay Development Department.

(*f*) Other sales.

(9) Every cement factory receiving the bounty should submit quarterly samples of the cement manufactured to the Government Test House, Alipore, and a report as to the result of the tests made should be submitted to the Government of India.

(10) Arrangements should be made to remit, or reduce to a nominal amount, the fees ordinarily charged at the Government Test House when cement is tested for private persons.

* Mr. Ginwala does not concur in this recommendation (see paragraph 83).

85. Subject to what is said in paragraph 83, the recommendations summarised in paragraph 84 are unanimous. In addition we desire to put forward a supplementary proposal in which the President is unable to concur. Our recommendation is that on all cement consigned from the Indian factories to Burma a bounty of Rs. 11 a ton should be paid in addition to the bounty payable on cement consigned to Calcutta, Madras and Bombay. The chief need of the Cement industry at present is to raise its production in order to enable it to reduce its costs, and it is therefore of the utmost importance for it to secure a wider market. But, for the reasons given in paragraph 65 of the Report, the Indian Cement industry cannot in the present circumstances obtain a footing in the Burma market, where the annual consumption of cement now exceeds 30,000 tons. Our object is that the Indian manufacturer should realise approximately the same price f.o.r. works, selling in Rangoon, as he does when selling in Calcutta and Bombay. During the period when the manufacturer is endeavouring to establish a firm hold on the Indian market, it will ease his position materially if he is enabled to sell a substantial quantity of cement in Burma. Ordinarily, when an industry is unable to dispose of its whole output in the markets within easy reach, it is forced to sell part of it in a distant market—whether domestic or foreign—at a lower price. In this case we propose that the Government of India should assist the industry by relieving it of the necessity of accepting an unremunerative price in order to dispose of its surplus output in the Burma market. The difference between the freight to Calcutta and the freight to Rangoon from the up-country cement factories is Rs. 14 a ton, but from the evidence it appears that the price of imported cement in Rangoon is about Rs. 3 a ton higher than it is in Calcutta and Bombay. It is on this basis that we have arrived at the figure of Rs. 11 a ton as the assistance required. We consider that this additional bounty should be regarded as a purely temporary measure to be discontinued as soon as Indian cement has firmly established itself in the Indian market. The President is unable to concur in this proposal, both because, in his judgment, it entails expenditure disproportionate to the benefit likely to be derived from it, and because it involves a departure from the principle that the amount of protection should not exceed what is required to enable the industry to capture the markets which it can ultimately hold without assistance.

Proposed additional bounty on cement consigned to Burma.

86. We desire in conclusion to acknowledge our deep obligation to all who have assisted us in our enquiry. The cement firms who applied for protection invariably complied with our requests for further information and met our wishes as to the publication of evidence which they originally desired to be treated as confidential. We are also indebted to the Local Governments, to the Railway Administrations, to the Commissioners of the Port of Calcutta and the Bombay

Conclusion.

Port Trust and to the engineering firms for much valuable information.

G. RAINY.—*President.*

P. GINWALA } *Members.*
V. G. KALE }

G. C. F. RAMSDEN—*Secretary.*

February the 26th, 1925.

APPENDICES.

APPENDIX I.

The Indian Cement Manufacturing Companies—Statistics.

Serial No.	Name of the Company.	Date of establishment.	Date when manufacture commenced.	Site of the works.	Full capacity of the plant.	Distance of the factory from the ports.	Nearest coal-fields and its approximate distance from factory.	Approximate distance of the factory from Bengal coalfields.	Fixed capital expenditure of the Company.
1	2	3	4	5	6	7	8	9	10
					Tons.	Miles.	Miles.	Miles.	Rs. lakhs.
1	South India Industrials Limited.	1879	1904	Washermanpet, Madras.	10,000	*Nil* (at Madras)	Singareni-362	1,000	8·8
2	Indian Cement Company, Limited.	1912	1914	Porbandar, Kathiawar.	30,000* or 40,000	Bombay-258 (by sea) Karachi-302 (by sea).	Central Provinces-885.	1,442	27·9
3	Katni Cement and Industrial Company, Limited.	1912	1915	Katni, C. P.	60,000	Bombay-673 Calcutta-674	Burhar (Rewa) 100.	450	47·5
4	Bundi Portland Cement Limited.	1913	1916	Lakheri, Rajputana.	65,000	Bombay-610 Calcutta-960 Karachi-720	Pench Valley-500.	800	48·0

* The present capacity of the plant is 30,000, but could be increased to 40,000 at a cost of Rs. 60,000. The figure in column 10 includes this sum.

Serial No.	Name of the Company.	Date of establishment.	Date when manufacture commenced.	Site of the works.	Full capacity of the plant.	Distance of the factory from the ports.	Nearest coal-fields and its approximate distance from factory.	Approximate distance of the factory from Bengal coalfields.	Fixed capital expenditure of the Company.
1	2	3	4	5	6	7	8	9	10
					Tons.	Miles.	Miles.	Miles.	Rs. lakhs.
5	Dwarka Cement Company, Limited.	1919	January 1922.	Dwarka, Kathiawar.	100,000	Bombay-323 Karachi-237	Central Provinces-860.	1,450	78·0
6	Sone Valley Portland Cement Company, Limited.	1922	October 1922.	Japla, E. I. R. (Daltonganj Br.)	50,000	Calcutta-370	Rajhara-39	200	77·0
7	Jubbulpore Portland Cement Company, Limited.	1920	December 1922.	Mehgaon, near Jukehi C. P., (10 miles from Katni).	60,000	Bombay-683 Calcutta-664	Burhar (Rewa) 100.	450	56·6
8	Gwalior Cement Company, Limited.	1919	April 1923.	Banmore (12 miles from Gwalior).	40,000	Bombay-775 Calcutta-819	Central Provinces-350	650	41·0
9	Punjab Portland Cement Limited.	1920	July 1923	Wah, near Hasan Abdal, Punjab.	36,000	Karachi-921	Makerwal-125	1,250	61·2
10	Central Provinces Portland Cement Company, Limited.	1919	October 1923.	Kymore, near Jukehi, C. P., (10 miles from Katni).	100,000	Bombay-683 Calcutta-664.	Burhar (Rewa) 100.	500	130·6

APPENDIX II.

Statement showing the production of Indian Cement, and the quantities imported, since the year 1914 (in tons).

Name of Company.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.
1. South India Industrials, Limited	*Not given.*						4,931*	3,985*	2,720*	..	2,787
2. Indian Cement Company Limited	945	4,912	7,403	14,042	17,760	19,457	16,222	25,750	21,261	14,814	10,983
3. Katni Cement and Industrial Company Limited.	..	13,000	31,264	40,508	36,730	34,614	33,761	42,977	43,820	53,275	37,120
4. Bundi Portland Cement Limited	..	..	..	19,173	29,854	32,741	36,330	60,100	55,227	57,055	54,604
5. Dwarka Cement Company Limited	..	....	....	..	..	..	..	..	28,308	25,422	(a) 12,000
6. Sone Valley Portland Cement Company Limited.	..	..	..	..	..	..	..	..	..	(b) 23,000	41,400
7. Jubbulpore Cement Company Limited	..	..	..	..	..	..	..	..	..	20,887	29,078
8. Gwalior Cement Company Limited	..	..	..	..	..	..	..	..	..	18,483*	9,945
9. Punjab Portland Cement Limited.	..	..	..	..	..	..	..	..	..	(a) 15,000	31,600
10. Central Provinces Portland Cement Company Limited.	..	..	..	..	..	..	..	..	..	(a) 7,000	34,229
Total Indian Production	945	17,912	38,672	73,728	84,344	86,812	91,253	132,812	151,336	234,936	263,746
Imports*	165,723	142,469	97,543	85,594	27,177	92,787	138,698	129,813	136,920	124,822	124,186
Total of Imports and Production	166,668	160,381	136,215	159,322	111,521	179,599	229,951	262,625	288,256	35[illegible],753	387,932

* Financial, not calendar, years, except for 1924.
(a) These figures are estimates. The Companies did not inform us of their actual output.
(b) Year ending September 30th, 1923.